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Editorial Policy

Editorial
We can do better than just boycotting HMOs - Acuin

Policy Analysis
Health care delivery by health maintenance organizations in the Philippines - Abes

Trouble in HMO Paradise: An Analysis of the PSO-HNS Policy on HMOs - Canal

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Otolaryngologic Manifestations of Child abuse at a Tertiary Hospital Emergency Room: A One-Year Study -Rosales-Feliciano *et al*

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Table of Contents

Editorial Policy

Editorial
We can do better than just boycotting HMOs - Acuin 3

Policy Analysis
Health care delivery by health maintenance organizations in the Philippines - Abes 5

Trouble in HMO Paradise: An Analysis of the PSO-HNS Policy on HMOs - Canal 11

Original Study
Otolaryngologic Manifestations of Child Abuse at a Tertiary Hospital Emergency Room: A One-Year Study -Rosales-Feliciano *et al* 20

Case Report
Facial Necrotizing Fasciitis- Talapian *et al* 25

The Versatility of the Nasolabial Flap in Facial Reconstruction 31

Mandibular Osteomyelitis - Romualdez 36

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We can do better than just boycott HMOs

Jose Acuin. MD

The economic model of a physician's sense of happiness involves 3 determinants. These are the time t spent in one's clinic seeing patients, the income i earned from such an activity and (3) the guilt g felt over inducing the demand for one's services that would not have otherwise been needed by patients have they been as fully informed and skilled as the physicians themselves. [1]

A physician is most happy when $t \leq 0, i \geq 0$ and $g \leq 0$. Simplistic as this model might be, it predicts, often correctly, that given a constant level of guilt over artificially induced demand for one's services, a physician would try to see as many patients as possible within the shortest time to increase one's level of happiness and satisfaction.

This of course has a limit considering that the number of waking hours over which one can be reasonably productive is finite. This indicates that to maintain the same level of i over a pre-determined t, one must induce patients to pay for services that are either unnecessary or dispensed hastily. Such practice can only be tolerated by a g value kept as close to 0 as possible.

Our Society contends that ENT specialists can only be happy if i were maintained at a higher level than what HMOs routinely pay their affiliated providers. This is because we are not predisposed either to increase our t or to tolerate a g=0 wherein no compunction is felt over the most egregiously wasteful or useless forms of service.

Escalating prices of medical care as charged by providers and unequal access to health care are the two driving forces that have fueled the rise of managed care. The goal is to maximize limited resources by ensuring the widest coverage of quality health care at the lowest possible cost. One might be tempted to say that patients have to pay for quality care at considerable levels but one of the greatest fallacies of our times was the assumption that the greater the expenditure, the higher the quality of care. The World Bank showed that increments or decrements in expected life expectancies have no relationship with the expected increase or decrease in government health care expenditures.[2] For instance, China extracts the most health benefits from the least amount of money while the United States health care system is clearly one of the most inefficient in the world. In that same book, the World Bank has identified clinical and preventive health care packages that have been proven by research to yield the best value for money. These include vitamin A supplementation, tuberculosis treatment and the expanded program of immunization.

Such best buys are determined because they have been shown to be cost-beneficial or cost effective. This is regardless of the current prices of these services prevailing in countries. Market failures would set the prices of health services often independent of their true costs.

Managed care can correct for these discrepancies while ensuring high quality care. [3] Managed care is supposed to transform hospitals from profit centers to cost centers where health technologies are deployed according to clinical guidelines that are based on good evidence of efficacy and cost-effectiveness. Patient need determines resource use, not patient demand, whether induced or not by health providers themselves. [4]

But since HMOs and other forms of managed care tend to cut costs, quality can take a backseat. And since in the Philippines, the share of health expenditures borne by HMOs is minuscule compared to out-of-pocket payments, the brunt of maintaining high quality care is passed on to the providers and their patients. And with the finances of many HMOs taking a nosedive in the past year or so, ill-paid physicians and dissatisfied members can be tempted to get back at their HMOs by overprescribing or overconsuming health resources, a moral hazard that benefits none of the parties involved.

In countries where capitation is enforced, by giving predetermined amounts of money to providers for the health care of a set number of beneficiaries, HMOs encourage providers to spend only for those best buys and economize on those health technologies that yield lower value for money. This may be good for evidence-based practice were it not for the fact that such an arrangement also passes on the risk of overspending on the providers, not the HMOs.

HMOs do not contribute to a physician's happiness. To maintain an i level set by HMOs, physicians are constrained to see the most number of patients within a given time t. The shortened patient-physician interaction may increase the likelihood of inappropriate and even dangerous management to levels that can only be tolerated by a congenitally guiltless physician. Studies have not shown this to be so but that may also be because clinical practice guidelines are more accepted elsewhere than here where clinical practices vary widely and treatment decisions are more touch-and-go.

Will refusing to see HMO patients correct the situation? The short term gains may involve an increase in what ENT specialists can charge but this increase is readily passed on to the patients themselves, either through HMO premiums or through add-on charges that some of us who still opt to see HMO patients already do. But this may tend to defeat the purposes of managed care, promote higher health care costs and abet inequitable access to ENT services. It can also be used to wrongly depict ENT specialists as money-hungry physicians who defy the exigencies of the large medically underserved segment of Filipino society. That is, unless we do as we preach.

Just as we have demanded that HMOs police themselves, we must also arrive at guidelines governing clinical care and ethical practice. And stick to these guidelines.

We must come to realize that gone are the days when we can dismiss calls for more appropriate use of resources as threats to physician autonomy and to patient access to whatever health care he can afford. Physicians are still the final arbiters of what constitutes appropriate care for each of their individual patients. But since neither patients nor physicians have access to good and timely information, they should rely on clinical practice guidelines as road signs on the way to good health outcomes.

Just as we call for stricter government controls on HMO operations, we should also call for higher level controls on our clinical practice. Our desire for technical proficiency and professional excellence must be subsumed by the higher level need for allocational efficiency and equitable access to health care. The demands on our health system are so great and our resources so incorrigibly limited that we would be digging holes and burying our heads in them in we persist in blithely ignoring the outcomes of our care and the resources used in achieving them.

Just as we demand for clear and sensible policies for setting payment levels, we should also communicate as honestly and as transparently as possible the bases for our professional fees.

Refusing to see HMO patients should be a call for moratorium, but should not be seen as a definitive solution. The moral suasion for policing our ranks would be much stronger if we aspire to ensure a fair shake for ourselves and for our patients regardless of what HMOs propose to do rather than if we merely ensure that all diplomates to toe the line of the HMO memorandum. The credibility of our claim that patients' ears, noses and throats are in good hands if those are diplomates' hands would be more compelling if we work not only in improving our craft but also in assuring that as much of those who need that craft can avail of it regardless of their source and level of health spending.

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Policy Analysis

Health Care Delivery by Health Maintenance Organizations in the Philippines

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The Health Maintenance Organizations Act of 1998 consolidated from the two corresponding senate bills sponsored by Senators Sergio Osmena III and Teresa Aquino-Oreta is aimed at providing incentives and guidelines governing HMOs to enhance accessibility to affordable health care services and to recognize, encourage and tap the participation of the private sectors in providing, funding and manage the delivery of cost effective and quality health care services.

Problems due to market failures resulting from the operations of HMOs in the Philippines for more than a decade must be addressed by these bills to ensure that all the stakeholders interests are protected. The causes of these failures include the traditional causes such as natural monopoly (monopsony), information asymmetry, and failures due to externalities. The pursuit of other societal goals such as freedom of choice and political participation in the operational framework of HMO is likewise important.

The policy goals in the delivery of health care through HMOs must include efficiency, affordability and effectivity. Efficiency of health care must not only consider the price of health services delivered but also include the quality of such services. Effective health care also connotes the highest possible quality of care rendered by highly trained and qualified health providers, whether participant or non-participant, made accessible to all the enrollees at a price they are willing to pay. Affordability must not compromise the concept of free market and the basic liberty of the enrollees to make medical decisions for themselves, specifically in choosing health providers whom they think will provide the highest possible quality of care. Equity in economic opportunities must be guarded and encouraged so that the public may be assured of the kind of service that he is paying for.

HMOs must operate on the regulatory framework formulated by a body made up of representatives of government (DOH), HMO, consumers and representatives of the health providers (PMA and PHA). Operations of HMO must be under the regulation of the Office of the Insurance Commissioner to ensure that health providers are paid for health services they rendered and that premiums collected from enrollees are indeed allocated for their health needs. An open policy is recommended such that enrollees can access the highest possible quality of health care.

Historical background

Health maintenance organizations (HMOs) were introduced in the Philippines in the early 1980's. Their main goals were to deliver quality health care and economic viability. To pursue these goals they had to render service that should not only be efficient but also effective.

HMOs evolved as part of escalating cost of health care which has become inaccessible to the poor (i.e., a breakdown of distributional goals). A manner of health service delivery which may be classified in different forms and which is collectively termed as "managed care" was offered by private institutions which are necessarily business entities. These institutions contract managed care with the citizens either individually or collectively through their employers as part of their company benefit packages. Health care is delivered to these consumers by using the services of their "accredited" health providers consisting of doctors and private hospitals.

The operation of HMOs in the Philippines has been essentially without clear guidelines. No definite governmental agency has so far been identified to regulate their operations. One reason for this is disagreement regarding their business classification. To the ordinary layman, they are essentially involved in the delivery of health insurance. And yet, HMOs have refused to be classified as insurance companies, implying that they are not to be regulated by the Insurance Commission and not to be bound by insurance rules and regulations.

Numerous problems subsequently arose which seriously question the role of HMOs in the delivery of health care. Not too long ago the Philippine Medical Association (PMA) mentioned in a news item in a popular broad sheet newspaper that "HMOs' only aim is profit". The Philippine Neurological Association (PNA) issued a memorandum enticing its members to suspend services to HMO members. In a similar move, the Philippine Society of Otorhinolaryngology -Head and Neck Surgery (PSO-HNS) ratified a resolution calling for marked changes in the relationship between its members and HMOs. Meanwhile, a number of HMOs fell into financial troubles and newspapers[1-3] began warning the public and the health provider about the financial incapacity of some HMOs to continue their business. Hospitals became stricter with payments[4] and doctors who often received their payments much delayed (if ever they ever get paid) became more restless. Enrollees of HMOs got confused when told of the suspension of services by a number of health providers. Some were even surprised when told of the unrealistically low professional fees being paid to their doctors.

Against these developments two senate bills were filed during the First Regular Session of the Eleventh Congress. Senate Bill # 265 filed by Sen. Sergio Osmenia III and Senate Bill # 1338 filed by Sen. Teresa Aquino-Oreta were aimed at providing incentives and guidelines governing HMOs to enhance access-ibility to affordable health care services and to recognize, encourage and tap the participation of the private sectors in providing, funding and managing the delivery of cost effective and quality health care services.

Problems with present HMO operations

Market failures resulting from present HMO operations may be classified into the traditional causes and those related to the pursuit of other societal goals.

Natural monopoly is a traditional cause of market failure and arises from most HMOs employing a "closed" system of operations. Only those health providers who are included in their "accredited" list are allowed to attend to the enrollees if and when they require medical services. "Accreditation" (as used by HMOs) essentially means that the doctors who are willing to abide with their dictated fees for consultation and other services are considered accredited and are allowed to attend to HMO patients.

In a sense therefore, the patient who contracts an HMO policy loses the basic right of making medical decisions for himself. If the patient needs the services of a doctor whom he feels could deliver the best service for him, he will not only be denied the services of such doctor but also his hospitalization would not be paid by the HMO. Such policy is without any exception even if the doctor involved is truly accredited by his medical organization and is a highly recognized authority in his particular field of specialization.

Hence, HMOs in a way control the demand for health services. Whereas previously it was thought that doctors controlled the supply of medical services by unilaterally setting the fees (monopoly), the present HMOs commit monopsony which is another cause of market failure.

While it may be argued that the "closed" system of health care delivery is meant to provide the most efficient and affordable means of health care delivery, the fact is nobody, not even the

economists, can say what is economically best for the individual needs of a person particularly in matters concerning his health. Only the person himself can decide that.

Inefficiency

Inefficiencies will likely result if an enrollee is prevented from seeing his trusted doctor. Health care especially as practiced in the Philippines, is based on trust. Without trust the healing process may be incomplete.

People with serious illnesses are discriminated against when applying for HMO membership. Those with serious illnesses usually find it hard to have themselves insured. Patients may have to consult a HMO doctor several times when a more expert specialist would require fewer treatments. Quality doctors tend to treat an illness with less laboratory work and less clinic visits because such factors speak of quality, while participating doctors may favor more visits since it equates with more fees paid by the HMO.

Information asymmetry

As in other insurance contracts, the fine prints are frequent sources of misunderstanding between the HMO and the patient. A particular source of conflict is the definition of what is a pre-existing condition. Oftentimes a patient is hospitalized for an operation which may not be covered by the HMO policy on the argument that the condition is pre-existing.

Another source of conflict is the kind of doctor to whom a patient is referred for medical attendance. As mentioned earlier "accreditation" is done unilaterally by the HMO itself. Patients may not be informed whether he is referred to a certified specialist or to an imperfect substitute. For instance, a patient needing ENT referral may be referred to an EENT specialist. And yet, in the Philippines as in other European and American countries, the only certified specialists in ENT are the diplomates of the specialty organization. EENT specialists may be certified specialists by the Philippine Board of Ophthalmology but only a handful are certified by the Philippine Board of Otolaryngology to be truly competent in managing ENT disorders. And yet HMOs capitalize on this misinformation to refer their patients to substitutes without the patients' knowledge.

HMOs do not have the authority to accredit doctors. A medical specialty board accredits candidates who have completed their residency training in recognized centers and passed rigorous examinations to ensure quality. HMOs merely enlist doctors who are willing to provide health care at a price that HMOs determine but not all those recognized as certified specialists by the respective specialty boards and society. EENT practitioners should not be passed of as diplomates in ENT. Only then would the public be protected from imperfect substitutes.

Externalities

Several HMOs encountered financial troubles due to mismanagement and bad financial investments. This translates to poor service to patients every time services are suspended by participating health providers due to delayed or inadequate payments by financially troubled HMOs.

Unequal economic opportunities

HMOs dictate the terms and amount of premiums from their clients) as well as of payments to the participating health providers. HMOs generally charge surcharges or interests on late payments by clients and yet they do not incur the same penalties for late payments to participating health providers. In fact, it was discovered that an HMO did not send two boxful of checks as professional fee to participating doctors indicating an intentional delay in payments unless a notice of collection is served. (personal commuication, Dr. Ed Clemente, columnist, Business World).

Since doctors and consumers are generally not organized to monitor the effectiveness of health care delivery through HMOs, complaints from these

stakeholders are generally left unattended especially now that there is as yet no designated regulatory body to protect their interests and oversee their operations.

Policy goals

The first policy goal is to provide of efficient and high quality service

HMOs are reportedly more efficient alternatives in the delivery of health care[5-7]. Quality of service through HMOs remains a relevant issue because of strong gatekeeping activities[8-9]. In one report in the U.S. HMO enrollees were found to less likely receive new technological procedures compared with the fee-for-service patients[10]. While efficient health delivery through HMO should favor the economically depressed, one study showed that low income patients assigned to HMO tend to have significantly more bed-days per year due to poor health and more serious symptoms. Furthermore there is a greater risk of dying among those assigned to HMO in comparison with fee for service plans [11].

The price of goods and services especially those related to health is not only the monetary amount for the quantity but also the quality of such goods and services. Hence in health delivery, assurance of quality care is as important as efficiency. HMOs should supposedly decrease the patient's out of pocket cost of medical care (including indirect cost) and therefore should encourage physicians to prescribe the highest quality of medical care. However this has not been realized because of the strong gatekeeping activities of HMOs.

Quality service in a way promotes efficiency. Effective treatment of disease accomplished with less clinic visits, shorter hospitalization and less complication provided by a quality doctor favors efficiency since it entails less opportunity costs for patients.

The second policy goal is to provide a health care delivery system where the enrollees are assured of most benefit and for which they are willing to pay.

Even in health the free interplay of market forces must not be discouraged. Exchange of goods and services must not be dictated by any individual or by any organization. HMOs must not control the kind of service which their enrollees demand. Each individual must have the freedom to choose what to demand or consume. Doctors, even those non-HMO listed, must be given equal opportunities to offer their services, for as long as they are qualified and accredited by the respective medical organization. The value of their services is determined by the interplay of price the suppliers (MDs) are asking for and the amount the consumers (patients) are willing to pay. For example, a patient must be allowed to get the service of a non-HMO doctor whom he believes can provide the best quality care for as long as he is willing to pay for the difference in the cost of his service. If such a doctor charges Php15,000 for a surgical procedure being valued Php8000 by HMO to its listed MD, and for as long as the patient agrees to pay the difference of Php7000, the patient must still avail of the hospital benefits due him for such a procedure. This system will not only make the best possible care affordable but will also be an efficient system as far as the patient is concerned

The third policy goal is to provide a system that ensures equity of economic opportunities to all stakeholders.

If HMOs demand corresponding penalties for late payments by consumers (enrollees), such should also apply to HMOs giving delayed payments to their participating health providers so that the later will be motivated to give the highest quality of care to the enrollees.

Transparency regarding rates of premium and professional fees must be encouraged to guide the public on the kind of care they should expect. Equity in economic opportunities enhances delivery of efficient and effective health care. On the other hand, if there is inequity in the system, both efficiency

and effectiveness are adversely affected. Low fees usually paid late ultimately translate into poor quality service.

Alternative policies

Alternative#1 - Self-regulation as proposed by the two bills in Congress. This alternative may not protect the interests of other stakeholders regulations because the granting and revocation of licenses are fully controlled by HMOs themselves through their organization (AHMOPHI). The public and the participating stakeholders are not represented at all. Unabated gatekeeping activities of HMOs may further encourage monopsony.

Alternative # 2 - Senate bills plus amendments to the proposed regulatory policies

A regulatory bpdy may be set up with string participation by representatives of consumers and physician providers, together with the Department of Health (DOH), may be ensured in planning, monitoring and evaluating HMO activities. This body can grant and revoke licenses of erring HMOs.

HMOs must be regulated by the Office of the Insurance Commissioner (OIC). HMO's contrary to the provisions of the two pending senate bills, basically fall under the same category as pre-need plans and should be subject to the same regulations and limitations as companies that provide education plans, pension plans and the like. These companies are required to deposit 70% of all collected premiums in a trust fund. The trust fund ensures availability of funds for the payment of services. The Insurance Commission can prevent excesses committed by HMO through fines and sanctions.

Alternative #3 – The features of alternative # 2 plus an "open" policy for health care that enrollees deem beneficial and for which they are willing to pay.

Every individual must still be given the opportunity to seek the best possible health care suited to his need and at a price he is willing to pay. Such care may involve the highest possible quality and the latest technology rendered by a highly trained and qualified health provider.

HMOs may argue that such a system is not economically viable since they will not have any control in the fees. This fear may be baseless. If proven efficient and effective, an HMO implementing such "open policy need not invest on costly marketing strategies since the demand will always be high.

Choosing the best alternative

Alternatives I and II do not contain provisions that would enable enrollees to access the best possible quality of service at the price they are willing to pay. While issues of efficiency and effectiveness may be answered, these two alternatives do not answer issues regarding equity and liberty.

Alternative III ensures efficiency, effectiveness, affordability and accessibility to the best type of health care. It justifies and even promotes the delivery of the highest quality of care at a price that consumers may be willing to pay. While it promotes growth it also promotes equity. The World Bank 1993 Report entitled "Investing in Health" mentioned that government policies which promote growth and equity together will be better for health than policies that promote growth alone.

Recommendations

1. The HMO regulatory body must be composed of representatives from the Department of Health (DOH), HMO, PMA, PHA and the consumer sector.
2. Licensing and revocation of licenses must pass through the above mentioned regulatory body and not through the AMOPHI.
3. Quality assurance programs must be formed to monitor the quality of service delivered through HMOs.
4. Results of quality evaluations must be made known to the public.
5. Monitor financial status of HMOs through Securities and Exchange

Commission and the proposed regulatory body.

6. Give tax incentives as proposed in the two senate bills.
7. Services of doctors not included in the list of HMOs may be accessed depending on qualifications.
8. Accreditation of health providers must be based on guidelines formulated by the regulatory body and not by individual HMO.
9. HMOs must provide and promote several types of plans to give enrollees the chance to access the best quality of care at a price they may be willing to pay.
10. Provisions of HMO contract must be well explained individually and publicly. Fine prints should be discouraged.
11. Patient satisfaction surveys must be conducted to monitor market failures and improve on the system.
12. The Office of the Insurance Commission must regulate HMO operations.

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Trouble in HMO Paradise: An Analysis of the PSO-HNS Policy on HMO's

Cañal, Jesus Randy O., MD

Introduction

On December 3, 1998 the EXECUTIVE Committee of the Philippine Society of Otorhino-laryngology – Head and Neck Surgery (PSO-HNS) released a strongly worded memo to its 300 strong nationwide membership. It contained a landmark decision approved by its general assembly that sought to the define the relationship its members should adopt in dealing with Health Maintenance Organizations (HMOs). In the following sections, the author will attempt to unravel the events and explore the underlying reasons that led to the development of such a policy and having done such, construct a conceptual framework of the situation, and finally present recommendations on how to address the emergent conflicts. Recommendations on how to further develop and implement such a policy will also be presented.

Materials and Methods

Data and background information used in the formulation of this policy analysis were initially obtained from reviewing published material on HMOs in *Business World* and *The Medical Observer 1998 – 1999* , essays and correspondences retrieved from a Medline search, minutes of the PSO-HNS Executive Committee meetings 1996 through 1999, opinions and essays from the PSO-HNS discussion group and the PSO-HNS Web page in the Internet, the AHMOPHI 1998 Convention Souvenir Program and an unpublished article entitled "What's With (out) the E in (E)ENT?" by the author. Additional background material and information was also gathered from several interviews and lectures given by medical opinion leaders, HMO patients and employers. A full list is available upon request.

A survey on the knowledge, attitudes, and practices of PSO-HNS fellows regarding HMOs was also carried out using a questionnaire circulated via the PSO-HNS e-mail list. Last. a conceptual framework was constructed .

A Short History of HMOs in the Philippines

"What goes up, must come down" - Sir Isaac Newton

As far back as the mid-sixties, a few managed health care organizations in the Philippines were already in place although these mostly catered to industrial and business concerns. St. Patrick Health Care (founded in 1965) and Intercare (founded in 1974) are considered pioneers in the eventual establishment of the HMO industry, as we know it today. In 1981, Health Maintenance. (HMI) became the first legally registered corporation to function as an HMO and was basically patterned after the US HMO concept. Its modest success despite a shaky start was followed by the founding of Health Plan Philippines, Inc. (HPPI) and Fortune Medicare, Inc. in 1985.

In 1987, the Association of Health Maintenance Organizations of the Philippines (AHMOPHI) came into being. Among the founding members were Fortunecare, HMI, HPPI, Intercare (now CAPHealth Maintenance Organizations, Inc.), Medicard Philippines, Inc., and Philamcare Health Systems, Inc.

The AHMOPHI set forth to define the functions of an HMO and differentiated it from the traditional hospitalization insurance schemes in that an HMO emphasizes out-patient medical care, almost unlimited specific health care benefits, and a "no cash outlay" promise to its clients in the event of hospitalization. It also carried with it the noble vision of "providing easier access to quality health

care at all times" and the organizational mission of "professionalizing the HMO industry, with the ultimate goal of bringing this proven cost – effective and affordable health care delivery system to the widest segments of the population". And society took this to be a good thing.

Public response to the Industry was so good that everybody wanted to have a slice of the HMO pie. HMOs were seen as a boon to the failings of the Philippine public health care system (Medicare) and the rising cost of private health care. The stock market was bullish and confidence in the Asian Tiger economies was zooming towards heights previously unknown. The booming Philippine HMO market shifted to even higher gear with the entry of big local and foreign players such as Aetna, Cigna (and PCIB), Health Shield, Insular Life (I - Care), OMNI, Pryce Care, and Optimum. Aggressive marketing strategies convinced most companies to provide a HMO plan for its employees.

But the mounting complaints from HMO-affiliated doctors regarding low, delayed, and even non-payments for services rendered soon became too loud to ignore as columnist-gadfly Ed Clemente, MD: began writing on HMOs in *Businessworld*, a weekly publication with a wider readership.

By the end of 1996, HMOs were widely seen by doctors as the "profit - minded bad guy going between me and my patient', oftentimes being seen as heralds of "the end of medical practice as we know it". The exposure that American HMO's got did not help their cause any.

When the Asian economic crises erupted in 1997, several HMOs found themselves in dire economic straits. Excel Health Card closed in 1998, leaving many hospitals and physicians clutching bundles of uncollected fees amounting to about 50 million pesos (ed 1-8-99). Reaction of the hospitals to the closure of Excel was swift, brutal, and not entirely unexpected. They demanded immediate payment of outstanding bills, began requiring substantial cash deposits from HMOs, and "suspended" those who could not meet their demands. Physicians, on the other hand, grumbled, shook their heads, and gritted their teeth.

Crossroads: The PSOHNS and the HMO Industry

"First establish your plans, then prepare your equipment. This is why the chapter on battle follows the chapter on strategic assessments." - Sun Tzu, The Art of War

Cash flow problems, massive reported financial losses in 1997 and 1998, coupled with the fierce competition for clients able to pay the premiums all contributed to further degrade the capability of several HMOs to meet their obligations with hospitals and physicians. The virtual bankruptcy of another HMO (Healthcheck) towards the end of 1998 further eroded confidence in the stability of HMOs. Meanwhile, physicians and hospitals continued to bear the burden of delayed payments while paying patients grew scarcer because of the economic slow-down.

In the summer of 1997 the Philippine Neurological Association to the HMOs instructed its members, for reasons of "restoring dignity to the profession", to refrain from signing contracts with HMOs or accepting referrals from HMOs unless the minimum professional fees set by the PNA were met. According to members of the PNA, the HMOs reportedly acceded to their demands almost immediately without fanfare to defuse the conflict.

In the same year, an ad hoc committee initially formed by the PSO-HNS to look at the standardization of professional fees began tackling both the new RUV (relative unit value) schedules of ENT procedures and the HMO issue.

In October,1998, a general assembly of the PSO-HNS put the proposed contents of the "HMO Memo" to a vote. The decision was apparent even before the votes were tallied.

The memorandum released on December 3, 1998 instructed all the fellows of the society to "refrain from signing contracts with HMO's or accepting any more referrals from HMOs unless the guidelines stated in the memo were met." Despite its strong wording, the memo got

the kind of HMO response that didn't quite sit well with the fellows of the PSO-HNS – deafening silence.

A subcommittee was quickly formed to study the issues and come up with integrated strategies for implementation.

The PSO-HNS prepared a more detailed plan of action that included organization at the hospital level and coming out with strategies to win the hearts and minds of the paying public and the other medical subspecialty societies as well.

Feelers from several HMOs started trickling in but they all sounded like apologies to the fellows of the society. To make matters worse, some HMOs actually responded by ignoring their previous health providers and issuing new contracts with clauses in bold print "forbidding the physician to collect more than what the contract stipulates".

Patients previously referred to fellows were now being referred to other specialists / Family Physicians and some HMOs even went to the extent of enticing the younger fellows or would–be-fellows of the Society to disregard the memo and sign contracts with them.

All these did not go unnoticed by the society and in the spirit of fairness to the concerns of some of its members, the PSO – HNS issued an "ultimatum" to all its members, HMO heads and coordinators "enjoining the remaining 10% of its members who have not complied with the ratified HMO resolution to implement the Society's guidelines beginning April 15, 1999".

HMOs and Physicians: Profit vs. Service

The premise on which the preceding conceptual framework was built on is based on 2 key assumptions: 1) that HMOs are profit driven entities, and 2) that health care providers are viewed as professional partners rather than employees. And while physicians may not hold a monopoly on morals and ethics, it should be pointed out that the medical profession is primarily service–oriented, not profit-driven. In short, a physician remains bound by the code of professional conduct and ethics of his profession, when he agrees to be a "provider" for an HMO.

Although HMOs are not necessarily evil by virtue of their profit-driven nature, because most HMOs in the Philippines today are patterned after the so called "for-profit" HMOs in the United States, some of the "perversions" of the US system could eventually translate to the Philippine HMO industry. Some of the problems that have emerged in the US include incentives / rewards for physicians for undertreating a patient (capitation - plus - bonus system), "suspension" or outright dismissal of physicians for "overtreating" patients, dogged insistence on published practice guidelines, direct interference with medical management decisions, and patients' right - to - choose issues.

That HMOs are generally perceived by individuals, businesses, and even the government as being good for the country. This is founded on the argument that HMOs take up the slack in a health care situation bogged down by an inadequate government health system and an expensive private health system. However, why are most (if not all) of the negative "press" / perceptions regarding HMOs emanating from physicians' groups? Is it primarily because of selfish economic reasons on the part of the physician (because of the fear of real and imagined threats to his practice) or is there something more to it?

Cost-effectiveness: From Whose Viewpoint?

HMOs in the Philippines are run as businesses and as such they are under the mercy of free-market forces. These organizations want to be a permanent part of the Private (as opposed to Government) Philippine health care system, a system that has traditionally been driven by free market forces (i.e. a patient contracts the services of a physician and pays what the physician charges). Their entry into the system brought with it the HMO-inherent condition of imposing controls on the free market (i.e. professional fees are controlled or "fixed"), resulting in a conflict ridden situation which is usually justified with the "proven cost-effectiveness" of the HMO concept.

Cost–effectiveness however should be viewed from a well-defined perspective – from the point of view of the patient his policy might be cost effective but from society's point of view, the answer might be just the opposite. Whether HMOs are really cost-effective (compared to fee-basis service) or not is still a big question mark but it is not difficult to see that at least what happens is just a cost cutting on professional fees, and an added cost for the operating expenses of an HMO. The charges of hospitalization, medication, and ancillary procedures are usually beyond the control of HMOs.

This is where an inconsistency in the system could result in compromised care. In an effort to increase the "cost-effectiveness" (a.k.a. profits) of HMOs, professional fees and HMO operating expenses are minimized but since these can only go so low the next possible areas for cost cutting would have to be in hospitalization, medication, and ancillary procedures. And a more cost-effective system this equation does not probably make.

Implications of the HMO inaction

In a nutshell, the PSO-HNS decided to take what they considered to be a morally and ethically justified course of action against HMOs because of the perception that they were not being treated fairly by their supposed "partner" and that the dignity and integrity of their Profession was being compromised.

The PSO-HNS members in the initial memo tried to effect corrective measures that they felt would have addressed the basic problems surrounding their plight. In essence, the initial memo could be seen as a "quick fix" solution to a problem that had been simmering for quite some time and involved not only the PSO-HNS but the entire medical community as well.

The "inaction" of the HMOs regarding the memo resulted in hurt feelings and more resentment on the part on the PSO-HNS. More importantly, it led to the propagation of interest in the issue among the medical community, patients and government, and exposed some of the flaws and failings of the entire system. Had the HMOs given in right away to the memo, their action would have served as the "quick fix", and the problem would just have repeated itself in the future.

We are therefore being presented with an opportunity to examine closely the conflicts and issues surrounding the HMO industry and hopefully, in a collaborative manner, work towards the creation of a system fair and equitable to all concerned.

Patient Discrimination Issues

Central to any discussion of relevant issues should be the realization that the basic problem is that HMO physicians are unhappy with the way they are being treated by the HMOs.

The most antecedent cause of the problem appears to be compensation. However, the most ethically relevant and pressing cause/effect would be patient discrimination. While compensation considerations are important and pivotal in this equation, it is something most physicians with stable practices can afford to overlook and forego in the meantime.

The PSO-HNS resolved to go through with its plan of action because of the realization that there was a perceived change, bordering on discrimination, in the way they were handling their HMO patients. This goes against the basic tenets of the Hippocratic Oath, a non-legal but nevertheless binding (sacred) oath that no physician would knowingly violate. Resentment and dissatisfaction against HMOs was further fueled because the HMOs were seen to be the agents that "forced" practitioners to confront such ethical issues head on and in effect, put them in harm's way.

The results of the survey reveal that 93% of the respondents have their secretaries inform them that a patient consulting his clinic is an HMO referral although most were quick to counter this with saying, "they don't feel they are discriminating against HMO patients" (65%). Discrimination of HMO patients in the clinics is not a new thing. In fact, 28% of the respondents said they limit the time they spend in seeing HMO patients.

Medical secretaries also admit that they are guilty of discriminating between "paying" patients and HMO patients. An HMO vice-president also admits that a good number of complaints from patients they receive have to do with discriminatory acts such as being made to wait longer ("sinisingitan"), not getting the attention they deserve from their physicians ("minamadali"), and being ignored by the secretary ("sinusungitan").

A brief tour of doctor's clinics in the big private hospitals would also yield a few signs posted at their doors to the effect that "We only see HMO referrals on the following days..." right next to a sign that says "the doctor is in".

Re-educating a doctor or forcing him to attend a "Values Orientation Workshop" are not realistic solutions to the problem. The HMO industry should take concrete steps (and fast) to correct this "state of unhappiness" being experienced by its providers, lest they end up with more than just losing the services of their Physician "partners".

Compensation Issues

Issues of compensation, as mentioned earlier, occupy a prominent position in the proposed scheme of things. In fact, the quick fix solutions embodied by the PSO-HNS and the PNA memos would appear, on the surface, to be demands for raises. Are these demands really justified?

Economic factors that are directly connected with compensation issues could be traced back to the condition of the national economy and to poor business practices espoused by some HMOs. It follows that when the national economy is unstable (i.e. interest rates and inflation rates go up), problems with cash flow and underestimation of HMO premiums become more prevalent.

The 1997 Asian economic crisis reportedly led to a two to threefold increase in hospital and medication charges thereby obliterating the projected profit margins of HMOs for 1997 and 1998. This phenomenon is supported by the massive losses experienced by almost all HMOs for 1997 and 1998. To make matters worse, in a bid to gain more market share and increase cash flow, the adoption of predatory pricing practices of some HMOs further brought down gross revenues for the entire industry. It therefore comes as no surprise that payments were delayed and professional fees remained low.

The problem however was compounded by the perception of some MDs that the HMOs were not forthcoming enough with the reasons for the delays in payment of professional fees. Allegations and horror stories abound that HMOs were withholding payments on purpose and the results of the survey confirm this phenomenon (70% of respondents agreeing with the statement that HMOs withhold payments on purpose).

Even if these MD's had a good grasp of scale economics, it appeared to them that they were singled out by HMOs to bear the brunt of the economic crisis since their professional fee appeared to be the only cost not adjusted by the HMO for inflation.

HMO managers have a less emotional explanation for the delays in the payment: delays are due to the huge volume of claims and the proverbial red tape that comes with processing claims. They also attribute these delays to incomplete claims forms that therefore cannot be processed right away.

For several ENTs affiliated with HMOs, the more important factor that got their ire was the long delay in payments rather than the amount of the compensation they were receiving from the HMOs (after all they had agreed to attend to patients at the rates stipulated in their contracts).

Common sense dictates that 100 pesos a year from now is worth much less than 100 pesos now. These MD's felt that HMO's placed them in a double jeopardy situation wherein the value of the compensation they eventually received from the HMO's were doubly discounted and already way below what they expected to get for their efforts.

The closure of Excelcard in 1998 left a lot of doctors and hospitals "holding an empty bag". Non payment for services

rendered is a traumatic experience for any working man who would not therefore want to make the same mistake twice. A bill pending in congress that appears to protect HMOs from expeditious prosecution with regard to collection complaints did not sit well with the ENT's who likened it to "adding insult to injury".

The realization that closure of other HMOs was now more than just a possibility pushed many MDs to seriously think about ways of protecting themselves from future compromise – hence the memo. The closure of Excel also dealt a blow to the industry's credibility via its other stakeholders namely the HMO clients and hospitals that also now began to think twice before buying insurance from or accrediting a certain HMO.

An AHMOPHI member CEO further explains the current financial predicament of HMOs in the light of the following hard economic facts. Industry reports claim that for the 1997 fiscal year, the mean Return on Revenue (ROR) figures for AHMOPHI members was a measly 2.3%, way below the healthy limit for any business to operate. The average Return on Equity (ROE) was likewise low at 10% with the highest figure pegged at 16%. With about 75% of the premium peso devoted to healthcare (only 25% are directly attributed to administrative costs), and a third of the health care budget allocated to professional fees (25% of the premium peso), doubling the professional fees being demanded by doctors would double the entire premium peso in order for the RORs to be maintained.

Such a high increase in the premiums will not make an economically viable package for their clients and will probably result in huge decline in enrollment and more predatory pricing, eventually leading to the closure of even more HMOs. These economic arguments however give rise to more questions that are in need of further study: Are the current premiums and benefits realistic? Are they really cost effective?

Interference Issues

Issues of interference in patient management by HMOs are already well documented in the US. Physicians see "unsolicited advice from unqualified people" on how to best manage a patient as anathema – something that compromises their code of ethics, their patients' welfare, and their professional rights.

While this problem has not yet reached alarming proportions in the Philippines, the trend seems to be moving in the very direction that the US system took. The US for-profit HMO system is characterized by "perversions" in patient care in that MDs are given obscene rewards and bonuses for undertreating patients. In the old (pre-HMO) system, a "perversion" existed in that there was a higher tendency to overtreat on the part of the Physician since this practice benefited him financially. Which is the lesser evil? How could these "perversions" be done away with?

One of the "solutions" to the under/over treatment problems in the US was the insistence of HMOs to follow Clinical Practice Guidelines and the local HMO's seem to favor this solution also. A word of caution: Clinical Practice Guidelines are only as good as the methods that were used to create them and the scientific studies they were based on and should not be seen as a rigid set of rules to follow in the individual treatment of patients.

Even the very same physicians who formulate these guidelines are quick to put in the very same words of caution, in the hope that the "art" in medical practice is not overwhelmed by the "science" these guidelines want to propagate. While guidelines are based on what was or is seen to be beneficial to most patients, they are by no means applicable to all clinical situations and are time-bound. As in any current scientific "fact", they can revert to just being a footnote in medical history at any given time.

A unique form of HMO-induced "perversion" that has remained undocumented in the current literature is the phenomenon of overtreating a patient not for the benefit of the patient or the physician but for the detriment of the HMO. This ethically dubious phenomenon should

also be taken into consideration in any HMO policy planning.

Summary

In summary, we have a situation where the physicians are unhappy with the HMO partnership and are demanding some form of corrective action from the HMOs (or else). The ENT physicians claim moral, ethical, and professional right in justifying their demands for equitable compensation. The HMOs remain silent for the moment claiming financial insolvency to justify heir inaction and crying "foul" in response to what is being seen as "cartelizing" and "gentle coercion" of the PSO-HNS of some of its reluctant members or members-to-be.

Should the HMOs comply with the demands? Can they afford not to? The issues that have come out with the action of the PSO-HNS and the inaction of the HMOs appear to be timely and relevant to the Philippine Private Health Care System in general. Negotiations and consultations between the internal stakeholders (HMOs, MDs, and Hospitals) are therefore recommended to thresh out unresolved issues and arrive at a "live and let live" solution to the conflict. Hopefully, such an exercise will eventually result in a Philippine HMO Policy that will espouse the "increased provision of affordable, quality health care for more Filipinos", which is after all a common goal of all concerned. In the pursuit of this noble objective however, it should be clear to the parties concerned that while physicians can and will probably survive without HMOs, the converse may not be true.

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Table 1 . Responses of 20 PSO-HNS Fellows practicing in Metro Manila, 14 out of 20 or 70% having been a health provider for an HMO at one time or another (N = 20)

QUESTION	Agree	Neutral	Disagree
HMOs are primarily for profit, service is second.	100	0	0
Only very few HMOs are treating doctors fairly.	100	0	0
In general, HMOs are good for Philippine society.	35	20	45
HMOs do not benefit the underserved or the poor.	60	25	15
HMOs are more beneficial than harmful to private practice.	15	10	75
HMO patients are discriminated against in the clinic.	55	25	20
HMO patients are usually satisfied with physicians' services.	35	50	15
Government should encourage the establishment of HMOs.	10	10	80
HMO patients help doctors start their private practice.	45	30	25
HMO payments are delayed mainly because hospitals are very slow in processing them.	0	15	85
HMOs withhold/delay payments to physicians on purpose.	70	30	0
HMOs pay very low doctors' fees to make health care affordable to many.	45	15	40
HMOs pay low doctors' fees in order to survive.	55	25	20
HMOs make money despite our present economic crisis.	75	15	10

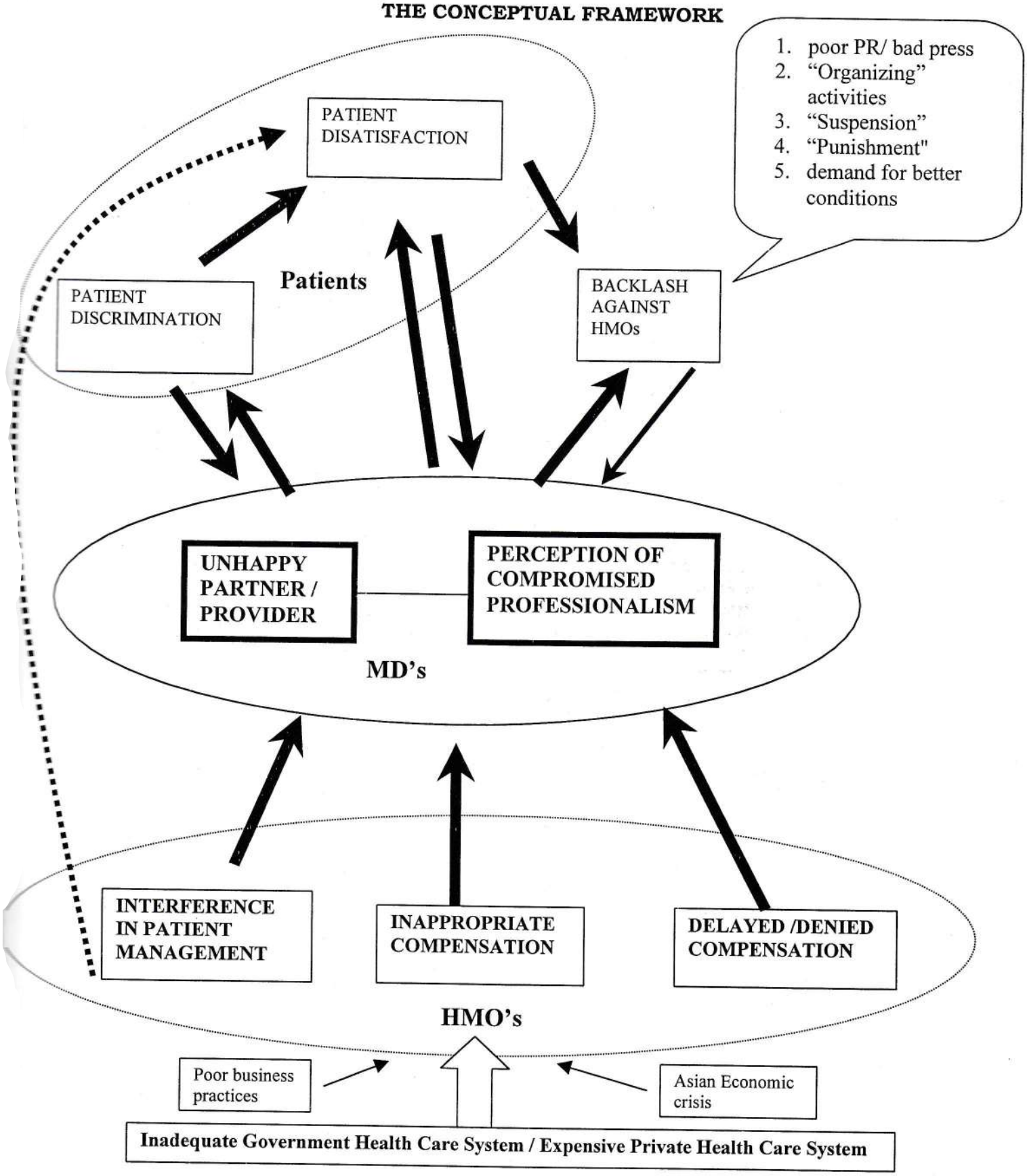
Table 2. Response to close ended questions of 14 PSO-HNS Fellows practicing in Metro Manila regarding their HMO practice. (N = 14)

	YES (%)
Does your secretary tell you before you see a patient that he/she is an HMO referral?	93
Do you have a clinic policy that limits the time you spend for HMO patients.	28
Do you feel you are discriminating against HMO patient's in any way as compared to your "paying" patients ?	35
Has your HMO ever refused to cover a diagnostic/therapeutic procedure which you felt was strongly indicated for your patient?	43

Table 3. Responses of 14 PSO-HNS Fellows practicing in Metro Manila to open ended questions regarding their experiences and preferences concerning HMO's. (N = 14)

QUESTION	Mean	Range
On the average, what percent of your usual PF (for surgery) does your HMO compensate you.	37 %	15 – 100
On the average, what percent of your average consultation fee does your HMO compensate you?	48%	10 – 100
On the average, how long do you receive your compensation for doing surgery on an HMO patient?	6.4 months	2.5 – 12 months
What percentage of your usual PF should an HMO give you would you consider fair ?	85%	70 – 100
Please give the longest time interval before you received compensation from your HMO ?	19.5 months	6 months-
Please give the shortest time interval before you received compensation from your HMO ?	3.6 months	2 – 8 months

THE CONCEPTUAL FRAMEWORK



Original study

Otolaryngologic Manifestations of Child Abuse at a Tertiary Hospital Emergency Room: A One Year Study

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Objectives: To describe the head and neck-related manifestations of child abuse in the PGH-ER setting
Design: A descriptive study
Setting: Tertiary medical center.
Subjects and methods: Using the Emergency Room Pediatric Trauma Forms accumulated from September 1997 to August 1998, suspected child abuse cases were reviewed. Forty-six patients were suspected cases of child abuse; 27 of them sustained head and neck injuries. Data regarding age and sex of victims, type, location, place of occurrence and usual assailants of abuse were gathered.
Results: Superficial injuries such as bruises comprised 85% of injuries in the head and neck. The periorbital (40%) temporo-parietal (30%) and cheek (30%) areas were most affected. Beating with bare hands was the usual mechanism of head and neck injuries (69%). Assailants were usually parents, fathers 55% of the time. Most victims were males (57%) and between10-12 years old. Majority of abuse episodes occurred at home (76%) and consultation was made about 3 to 12 hours after abuse in most cases (52%). Frequently, patients were sent home after initial treatment (76%) and only 7% were formally referred for further investigation of possible child abuse.
Conclusion: More than half of cases of child abuse injuries occur in the realm of the otolaryngologist. Most injuries were superficial and were considered insignificant by the attending physicians. Knowledge derived from this study should increase our awareness regarding the physical signs of child abuse and would heighten our suspicious that a child has been a victim of an abusive incident.

INTRODUCTION

Child abuse is defined as "the physical or mental injury, sexual abuse, negligent treatment or maltreatment of a child under the age of 18, by a person responsible for the child welfare under circumstances which indicate that the child's health or welfare is harmed or threatened thereby". (Del Mundo, 1990).

Republic Act 7610 states that "physical abuse consists of "any act which results in non-accidental and or unreasonable infliction of physical injury to a child which includes but is not limited to lacerations, fractures, burns, strangulation, human bites and similar acts".

In the United States, 340,000 children are physically abused every year and 1.3 million are emotionally and physically neglected (Del Mundo 1990). In the Philippines, available data are scanty. However, the problem definitely exists. Many factors, especially cultural influences and the concept of corporal punishment discourage the reporting of cases. An unpublished 5-year study in 1989 noted that only 10 cases of physical abuse were seen at the Philippine General Hospital. The Department of Social Welfare and Development likewise reported only a small number: only 14 cases seen for the same period of time.

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Child abuse research is still in its infancy but recently, there has been increased social awareness of the problem especially among physicians. This is not only because reporting of cases is mandatory according to RA 7610, but also because it is the physician's responsibility to support the patient with sincere empathy and involvement.

All physicians who have contact with children should be familiar with the common injuries seen in child abuse. A study by Leavitt in 1992 found that 56% of child abuse cases had head and neck injuries. Examples included lateral head injuries such as to the ears, cheeks, temporal and parietal areas which are highly suspicious of abuse. Hemorrhage around the ear and ear lobe or inside the ear canal also suggest abuse. Lacerations, hemorrhage, redness of soft tissue membrane lining the external auditory canal or swelling of its cartilage may be evidence of a severe blow to the ear.

Knowledge of specific types of injuries in the head and neck where they are commonly inflicted would be valuable to otolaryngologist: it will help them heighten their clinical sensitivity to child abuse and improve their management of such cases. Otolaryngologists, more often than not are the first physician who see abuse victims, and hence, they may be the at the forefront in the fight against child abuse.

This study aims to describe the clinical characteristics of child abuse cases presenting with head and neck injuries.

SUBJECTS AND METHODS

Emergency Pediatric Trauma Forms from September 1997 to August 1998 which specified child abuse cases were reviewed. Hospital records of these patients were retrieved and analyzed. Data regarding age, sex, type, location and mechanism of injury were noted. Assailant, time to consultation and treatment given were likewise noted.

RESULTS

Forty-six cases of suspected child abuse were identified from Emergency Pediatric Trauma Forms from September 1997 to August 1998. Males accounted for 57% of these cases.

Majority of cases were 10-12 years of age (Table 1)

Table 1. Age Distribution of Child Abuse Cases

Age group (yrs)	no.	(%)
< 1	2	4
1 to 3	7	15
4 to 6	9	20
7 to 9	6	13
10 to 12	12	26
13 to 15	8	18
16 to 17	2	4
Total	46	100

Table 2 shows that 27 out of 46 cases had head and neck injuries.

Table 2. Distribution of Injuries by Body Part

Body parts	no. of occurrences	(%)
head and neck	27	57
limbs	8	17
torso	5	12
anogenital	3	6
no injuries seen	3	6
Total	46	100

Eighty-five percent (n=23) of these 27 cases with head and neck involvement sustained superficial injuries while the rest had lacerations.

Of the 27 cases, only 13 described the exact location where the injuries

occurred. Most injuries were on the lateral head areas (Table 3).

Table 3. Distribution of Injuries by Head and Neck Area

Head and neck areas	no.
periorbital	4
temporo-parietal	3
cheek	3
forehead	2
ear	2
occiput	2
lip	1
oral cavity	1
Total	13

Most children were beaten with bare hands (Table 4). Of the 14 cases where the assailant was identified, 9 involved fathers of the abused (Table 5). Thirty-five episodes of child abuse occurred at home (Table 6).

Table 4. Mechanism of Injuries in the Head and Neck Areas

Mechanism of injury	no.
Beating with bare hands	8
Slapping	1
Use of implement for beating	
steel rod	1
belt	1
wood	1
banged against concrete floor	1
Total	13

Table 5. Assailants of Child Abuse Victims

Abusers	no.
Father	9
Mother	3
Stepfather	1
Uncle	1
Total	14

Table 6. Places of Occurrences of Child Abuse

Place of occurrences	no.	%
Home	35	76
School	5	10
Street	3	7
Others		
Mosque	1	
neighbor's house	1	
unknown	1	
Total	46	

Twenty-four of the 46 abused children were brought to the emergency room 3 to 12 hours after injury (Table 7). Only 7 out of 46 were reported to the Child Protection Unit of the tertiary hospital. Most children were treated at the emergency room and sent home (Table 8).

Table 7. Time Lapse from Injury to Consultation among Child Abuse Victims

Time lapse (hrs)	*no.*	*(%)*
0 - < 3	12	26
3 to 12	24	52
12 to 24	7	15
> 24	3	7
Total	46	100

Table 8. Disposition of Child Abuse Victims

Disposition	no.	(%)
Sent home from ER	35	76
Home against advice	7	15
Referred to the Child Protection Unit (CPU)	3	6
Referred to the CPU then admitted for evaluation	1	3
Total	46	100

DISCUSSION

Physical injury secondary to child abuse mimics just about all imaginable childhood mishaps. Clinicians are responsible for differentiating accidental injuries from inflicted ones.

The fact that the head and facial areas are exposed and vulnerable to inflicted injury may explain the high frequency of its involvement.

Our finding of male predominance contrasts with a previous study done in the same institution from 1994 to 1996 (Guerrero-Manalo 1996) showing female predominance. This is probably because sexual abuse cases were more often reported than physical abuse during that time. This changing trend is actually a good indication that social awareness has decreased the prevalence of sexual abuse in children.

Guerrero-Manalo also found that child abuse was most common in the elementary age group between 6.5 to7.5 years. Our study showed more cases among the 10 to 12 year-olds.

Accidental bruising is common in children 2-5 years of age when they are still developing their motor skills and coordination. Thus, the fact that most injuries occurred among the 10-12 year old patients in our series is consistent with intentionally inflicted injury.

Additional features of bruising suggestive of abuse include patterned or symmetric injuries that do not fit the history or developmental stage of the child, multiple bruises of different ages indicated by variance of color, amd bruises in unusual locations especially those not vulnerable to play.

Bruising in the head and neck particularly the ear is usually indicative of abuse. Accidental bruising commonly occurs in the lower extremities: lower arm, lower legs (shins), knees and elbows.

Among our patients, lacerations were not as common as bruising (only 15%). Assailants most probably had the intent to punish and hurt but not to inflict fatal injury.

Most of the head and neck injuries in our patients were in the periorbital, temporo-parietal and cheek areas, which, according to Leavitt et. al. were highly suspicious of abuse, being exposed to slapping and punching.

Also, lacerations, hemorrhage, redness of the external auditory canal and swelling of its cartilage may be secondary to a severe blow to the ear and this was seen in 2 patients in this study. Hanjar in 1987 (Leavitt 1992) described the TIN EAR SYNDROME with findings of bruising and hemorrhage in the helix and antitragus as a result of a slap or blunt force to the ear. This study showed that 40% of cases occurred in the periorbital areas and 30% occurred in both the temporo-parietal and cheek areas.

One of our patients showed bruising of the buccal area. This may be due to the impacting of the teeth on the buccal surface of the cheek secondary to a slap or punch to the cheek. This case stresses that when bruising of the cheeks or lips is seen, clinicians should remember to look inside the mouth.

Other areas that may be affected but not documented in this study include frenulum tears resulting from a direct blow to the mouth. A linear or ragged tear with contusion and breaking of the teeth may thus be seen. Also during feeding time, the caretaker may force or jam a spoon or bottle in to the baby's mouth ripping the frenulum. Tongue injuries are usually found at the lateral borders and appear as cuts or crushed tissue frequently with jagged indentation.

That 76% of abuse incidents occurred at home is related to the findings that most assailants were close family members, 64% of those identified being fathers, more often than not under the influence of alcohol. This result parallels a prior study (Guerrero-Manalo 1996) that

found that physical abuse was inflicted by the father 55% of the time. Surprisingly, but not impossibly, mothers made up 21% of known abusers.

The delayed reporting of possible child abuse cases may be due to the fact that the injuries were not assessed to be life-threatening enough to merit immediate medical attention. Most likely, the abusive relatives might have hesitated to expose themselves to scrutiny for what they have inflicted.

That only 9% of the child abuse victims were reported to the Child Protection Unit reflect the urgent need to enforce Republic Act 7610 which very explicitly states the responsibilities of a physician. According to the law, a physician must report any case of suspected child abuse within 48 hourr under pain of being fined P2,000. Reporting physicians are immune from all liability.

CONCLUSION

Head and neck injuries were commonly seen among child abuse victims. Most injuries were superficial and involved the periorbital, temporo-parietal and cheek areas. Beating was the most common mechanism of injury, occurring mostly at home and inflicted frequently by the father of the abused.

Child abuse victims were between 10 to 12 years of age and were usually males. A time lag of 3-12 hours from time of injury to consultation was observed. Majority of patients were treated at the Emergency Room and sent home. Only a small percentage was further evaluated.

RECOMMENDATIONS

In other countries, child abuse has been extensively studied and researched as a medical diagnosis. In the Philippines, it is still in its infancy. This study may be a stepping stone for further clinical research leading to a greater understanding of child abuse as a medico-social diagnosis. Other areas for further research would include profiles of abused children and abusive parents and family dynamics which lead to abusive incidents towards children.

Because of our growing concern and increased number of physical abuse cases, Child Protection Units must be established in other institutions to provide long-term and medico-legal management and to increase vigilance in identifying and combating victims of physical abuse.

Otolaryngologists must be more alert to the physical signs of child abuse. Hopefully, all clinicians may be encouraged to report suspected abuse cases so that this unfortunate social disorder would be finally stopped.

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Case Report

Facial Necrotizing Fasciitis

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A 46 year-old diabetic female who initially presented as a simple case of cellulitis which progressed to facial necrotizing fasciitis is presented. The pathogenesis, clinical behavior, diagnostic modalities and treatment protocol are reviewed. An otolaryngologist must be aware that a common disease entity in the head and neck region may develop a serious infection. Early recognition, aggressive medical management, and timely surgical intervention must be rendered to avoid fatal outcomes. Among immunocompromised individuals, correction of the underlying metabolic derangement is of paramount importance because of its capacity to develop infections.

INTRODUCTION

Soft tissue infections may appear with great diversity and are caused by a wide spectrum of bacteria, both aerobic and anaerobic. One of its severe forms, necrotizing fasciitis, involves wide spread necrosis of fascia with resultant undermining of surrounding tissues. In general, it occurs in only one or two patients a year in large city hospitals (Schwartz et. al.). The groin, abdomen and extremities are usually affected. It rarely involves the eyelids, scalp, face and neck[1].

The earliest report of the disease was during the American Civil War, when a large number of patients presented with skin lesions described as color changes from green, blue gray, to black then to eventual sloughing off of the effected part. Originally called "hospital gangrene" [2], it was not until 1924 when Meleney first described and treated 20 cases from the Clinic of Peking Union Medical Center[4]. He first used the term "streptococcal gangrene" and noted that subcutaneous necrosis was its essential feature. After 30 years, Wilson coined the term "necrotizing fasciitis" to aptly describe this disease entity[5]. Mortality from necrotizing fasciitis, occurring anywhere in the human body has been estimated at 30%[6]. Diagnosis and treatment of necrotizing fasciitis are often delayed by a deceptively benign early appearance and often contribute to a more fulminant course.

Hence, the aim of this paper is to present the first reported case of facial necrotizing fasciitis in our institution. The pathogenesis, clinical behavior, diagnostic modalities and treatment protocol will be reviewed.

CLINICAL HISTORY AND COURSE

A 46 year-old housewife from Quezon City, was admitted in our institution due to swelling of the upper lip. The condition started 9 days prior to admission (PTA) as a pruritic papule on the upper lip, just below the left nostril. No pain or fever was noted. Six days PTA, the lesion became a painful pustule accompanied by intermittent moderate grade fever. She self-medicated with amoxicillin which was discontinued after she developed

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rashes. Three days PTA, she noted swelling of the upper lip, and recurrent moderate grade fever prompting consultation with a private physician. She was prescribed erythromycin, mefenamic acid and paracetamol, but to no avail. With progression of upper lip swelling and pain, she went to our institution and was subsequently admitted. No prior history of diabetes mellitus was elicited.

On admission, she was conscious, coherent, ambulatory, febrile but otherwise normal vital signs. The left upper lip was hyperemic, diffusely swollen, warm, and tender to touch. A pustule was noted 0.5 cm below the left nostril from which yellowish mucopurulent discharge oozed. There was left submandibular lymphadenopathy. The rest of the physical findings were unremarkable.

Admitting impression was cellulitis secondary to a pustule, upper lip. WBC was elevated at 111,000/mm with neutrophilic predominance. Gram stain of the wound discharge revealed gram positive cocci in chains and gram negative rods. AFB and KOH studies were negative. She was started on 300 mg of IV clindamycin initially, then 150 mg q 6. The upper lip lesion was cleaned and painted with an antibiotic ointment daily.

By the 2nd hospital day, the fasting blood sugar (FBS) was found to be elevated (15.5 mmol/L). She was co-managed with the endocrinology service and was placed on diabetic diet, regular blood sugar monitoring, glibenclamide 5 mg 1 tab PO OD, and sliding dose of short acting insulin.

The swelling and hyperemia of the upper lip progressed up to the area of the left nasolabial fold. The skin surrounding the pustule started to have a dusky discoloration. The necrotic skin around the pustule was debrided together with the superficial fascia and fat layer. Pockets of pus were drained

On the 3rd HD, the skin lesion progressed up to the left maxillary area. IV clindamycin was increased to 300 mg q 6. Blood sugar remained high (16.6 mmol/L). Glibenclamide was discontinued and intermediate acting insulin (Humulin N 15 units pre-breakfast & 10 units pre-dinner) was started.

On the 4th HD, swelling already reached the left lower eyelid with accompanying blister formation over the left malar area. The ophthalmologic impression was preseptal cellulitis and she was started on chloramphenicol ophthalmic drops. A more extensive wound debridement was done. Necrotic tissues involving most of the skin of the upper lip up to and left nasolabial fold area (6x2 cm), underlying superficial fascia (grayish in color) and fat tissues were removed. Necrotic areas of the orbicularis oris, depressor septi muscle, and buccal mucosa were also debrided (Fig. 1).

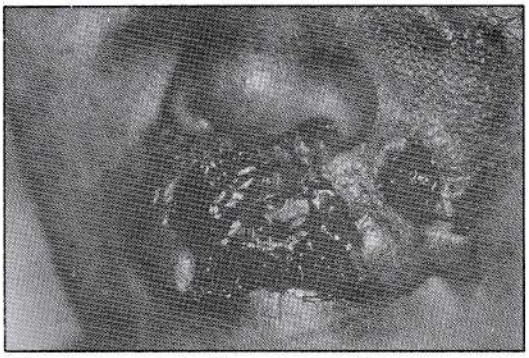

Fig. 1 Post-debridement of the upper lip skin, nasolabial fold, and superficial fascia and fat, 3rd hospital day.

The infectious disease consultant added cephalothin 1 gm initially and 500 mg IV q 6. The patient's blood sugar remained elevated for the next 6 days.

On the 5th HD, the culture and sensitivity report of wound discharge revealed growth of *Klebsiella pneumoniae*_sensitive to clindamycin and cephalothin. However, clindamycin was discontinued and changed to ciprofloxacin 500 mg PO at TID due to poor clinical response. Daily wound debridement was continued.

She remained afebrile for two days but on the 8th HD, fever recurred (38.9 C). On auscultation of the lung fields, bibasal crackles were noted. Chest x-ray revealed pneumonia and minimal PTB. Triple anti-Kochs medication was started. The facial swelling was noted to have reached the left supraorbital area. The left lower eyelid developed a fluctuant swelling prompting drainage and debridement. The orbicularis oculi muscle was spared of necrotic changes (Fig. 2).

Fig. 2. Draining area at left medial canthus and lower lid

Her ophthalmic antibiotic was changed to tobramycin ointment TID.

On the 9th HD, she was placed in isolation and the antibiotic regimen was changed to gentamycin 80 mg IV q 8 and ceftazidime 1 mg q 8. The antibiotic ointment was also changed to topical gentamycin. By then, her blood sugar was already controlled.

The patient's fever lysed on the 12th HD. This was followed by the regression of the supraorbital swelling. On the 16th HD, the wounds on the upper lip, left maxillary areas, and lower eyelids were observed to be dry and with granulation tissue formation. The IV antibiotics were shifted to oral cefdinir 100 mg q 8 and clindamycin 300 mg q 6 on the 18th HD.

Her wounds healed by secondary intention. With general signs of improvement, the patient was discharged on the 23rd HD with a final diagnosis of necrotizing fasciitis involving the upper lip, left maxillary and left lower preseptal area; non-insulin dependent diabetes mellitus; pulmonary tuberculosis; pneumonia (Fig. 3).

Fig. 3. Post-infectious scars 2 months after discharge

DISCUSSION

Necrotizing fasciitis is defined as a soft tissue infection causing extensive necrosis of the superficial fascia while sparing muscle and skin initially[2,13]. It generally develops as a complication of trauma or a surgical procedure. It may occur following minor trauma such as abrasion, cuts, bruise, boils, injection of drugs, and insect bites, particularly in individuals

with diabetes and peripheral vascular disease.

Our patient was a 46 year old diabetic female who developed necrotizing fasciitis on the upper lip, left maxillary, and lower preseptal areas following pustule formation. Her clinical course was complicated by uncontrolled hyper-glycemia.

The proposed diagnostic criterion for necrotizing fasciitis by Schwartz[1] includes superficial widespread fascial necrosis with or without accompanying cellulitis. This can be confirmed by the presence of any of the following:

1. serosanguinous exudate;
2. swollen, stringy, dull gray necrotic fascia with extensive undermining; and
3. Gram-stain smear of the pus or fluid showing the types of bacteria involved with a substantial white blood cell response.

The pathogenesis of necrotizing fasciitis has been studied extensively. Meleney[4] produced focal necrosis in rabbits by subcutaneously injecting a suspension of viable streptococci. He believed this to be due to a hypersensitivity reaction of the Arthus type. McCafferty and Lyons[8], reporting on a similar experiment, postulated that collagen necrosis is caused by a proteolytic enzyme activated by the action of streptokinase or staphylokinase. Later, Schwab[9], and Cromartie et. al[10]. showed that the toxic effect of streptococci was related to their cell walls. By injecting cell wall extracts of group A streptococcus in to the soft tissues of rabbits, they produced lesions characterized by inflammation, necrosis, and separation of dermal collagen. More recently, Schwab[11] demonstrated that streptococcal toxicity resides in the mucopeptide fraction of the cell wall, which combines readily with dermal connective tissue. This was enhanced by hyaluronidase released by the streptococci.

The disease appears to be a clinical entity rather than a specific bacterial infection. In a study made by Giuliano[12], 90% of the time, group A B-hemolytic streptococci alone or in combination with coagulase positive straphylococci are the most common isolate. Gram negative enteric pathogen has been associated in the remainder of the cases. *Klebsiella pneumoniae* which was our isolate, grew in less than 2% of his isolates. Our gram stain on admission showed an initial streptococcal infection.

The clinical behavior of the disease in the head and neck can be divided into two groups[13]. The first group involves the scalp and eyelids, where the disease is most commonly caused by trauma, followed by infection[2,13]. The organism most commonly isolated is group A beta-hemolytic streptococcus alone or in combination with straphylococcus. There has been no deaths reported in this group.

The second group involves the face and neck[13]. The most prevalent source of infection appears to be dental, followed by trauma, peritonsillar and pharyngeal abscess. This group has a rapidly progressive course with 65% in one series developing extension into the chest wall and mediastinum[6]. The bacteriology consist of anaerobes, gram negative rods, group A beta-hemolytic streptococcus, and straphylococcus species. This group generally has a poorer prognosis with a mortality rate of 27%[13].

Evaluation should consist of routine blood work to look for metabolic derangement, as in our case. Elevated blood sugar levels should be corrected accordingly. Cultures of the wound and blood should be obtained and sent for routine and anaerobic cultures to

provide a guide to the antibiotic regimen. Clinically, if there is any question about subcutaneous necrosis, the wound must be probed to ascertain the presence and extent of fascial involvement[2]. Imaging studies that are helpful include plain soft tissue films of the neck[14], chest x-ray to check for mediastinitis[15], and CT scan to determine underlying gas formation and vascular involvement[16].

Patients should be treated with broad-spectrum antibiotics after cultures have been obtained. Penicillin is the drug of choice for streptococcus and most clostridia. Clindamycin is adequate therapy against anaerobes resistant to penicillin. An aminoglycoside should be added to cover for gram negative bacilli. Our choice of antibiotics and timing of antibiotic shift was mainly influenced by a poor clinical response as well as the underlying diabetes mellitus.

Debridement of all necrotic tissue is the most important aspect in the treatment of these patients. Immediate surgical exploration is indicated in the presence of subcutaneous emphysema; rapidly advancing infection despite 24 to 48 hours of medical therapy; obvious fluctuance; or skin necrosis in an area of cellulitis, all of which were present in our patient[2, 13, 17].

Several factors have been found to influence the survival in necrotizing fasciitis. A delay of 24 hours in treatment is associated with much higher mortality rate (70%)[17]. Diabetes mellitus, atherosclerosis, chronic renal failure, obesity, immunosuppression and malnutrition have all been found to influence survival rates adversely.

In our patient, the control of the infection coincided with the control of her blood sugar. It is a well known fact that uncontrolled diabetes adversely affects the outcome of soft tissue infections, much more so in the setting of necrotizing fasciitis. Altered host response to the invading pathogens, as well as small vessel disease, appears to be the predisposing factors.

The complications associated with necrotizing fasciitis of the head and neck include cosmetic deformity, necrosis of the chest wall fascia, mediastinitis, pleural effusion, pericardial effusion, empyema, airway obstruction, arterial erosion, jugular vein thrombophlebitis, septic shock, lung abscess, and carotid artery thrombosis[15, 19]. Reconstruction of the cosmetic deformity in our patient is planned 3 months after discharge.

The important aspects in the care of these patients are the early recognition and correction of metabolic abnormalities, broad-spectrum antibiotics, and early radical debridement of all necrotic tissue. Our aggressive medical treatment and timely surgical intervention proved to be beneficial to our patient. Because of our recent experience, we would like to reiterate the same principles to our colleagues who one day might encounter a similar troublesome case.

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Case Report

The Versatility of the Nasolabial Flap in Nasal Reconstruction

INTRODUCTION

Defects of so small an area as the nose can present with a variety of problems that challenge even the most skilled and experienced of plastic and reconstructive surgeons. Although the repair of nasal defects has been documented since 800 BC in the writings of Suhruta, its complexity continues to intrigue surgeons working in this area.

The nose, the most central and prominent facial feature, has several unique aspects. Its contours are variable, with convex and concave surfaces in close contact with each other. The thin skin loosely attached to the fixed bony framework in the upper portion of the nose is replaced by a thick, sebaceous skin firmly adherent to the underlying cartilage framework in its caudad portion. It has a texture and color hard to match by skin elsewhere in the body. Compounding the problems of recreating this complex shape and configuration is the maintenance of its functions in olfaction, humidification and ventilation.

Imagination and expertise have made skin grafts, regional and distant flaps, and local flaps available to every reconstructive surgeon's armamentarium. But the versatility of the nasolabial flap, alone or in combination with another flap, as an internal lining, external cover, or both, superiorly or inferiorly-based, has made it a mainstay technique in aesthetic and functional nasal reconstruction.

Borrowing from this classic flap, modifications are presented in two case reports to add to its already versatile nature.

Case A

A 53-year old housewife from Albay presented with a 10-year history of an ulcerating, hyperpigmented nasal mass with irregular rolled borders(Fig. 1) that gradually enlarged to include the right nasobuccal area prompting consult. Biopsy revealed basal cell carcinoma.

Fig. 1 Basal cell carcinoma prior to surgery

Patient underwent excision with 3-4 mm margin of normal tissue. All lines of resection were negative for tumor. The nasal defect extended to the right cheek and spared only half of the left ala (Fig. 2).

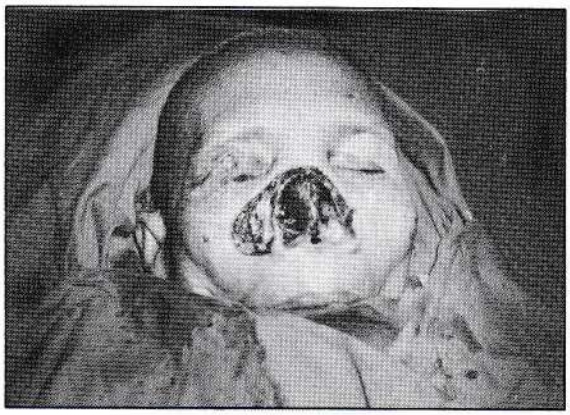

Fig. 2 Large surgical defect from entire nose to right cheek

Holes were drilled in the bony rim of the pyriform aperture and a cheek advancement flap was anchored with dermal sutures, thus lessening the ultimate flap size requirement. A scalping forehead flap was developed. The left nasal fossa defect was lined with mucous membrane turnover flaps from the septum and lateral pyriform margin. The right nasolabial flap was turned over to line the right nasal fossa defect. The covering flap was fashioned and enfolded to form the nasal tip, columella and alae, and meticulously sutured to the defect. The transport portion of the flap was rolled upon itself and tubed (Fig. 3).

Fig. 3 Defect closed with cheeck advancement, scalping forehead and nasolabial flap

A second stage procedure two weeks later involved release of the scalping forehead flap at the nasal radix, return of the transport flap to the calvarium, supraclavicular full-thickness skin graft to the forehead defect and nasal skeletal support reconstruction with Medpore (high density porous polyethylene). Medpore nasal arch implant was sculpted and inserted into the nasal radix in the cleavage plane between the covering and lining flaps. A columellar strut was also fashioned and inserted into the base of columella.

Patient is shown ten days after the second stage (Fig. 4). No flap complications were noted. She reported no stenosis, crusting or loss of olfaction.

Comment

In this variation, the nasolabial flap base is positioned inferior and medial to that of the commonly used superiorly-based flap, thus placing the base as close as possible to the position of the original ala. The flap is incised to the required length and width and elevated in the

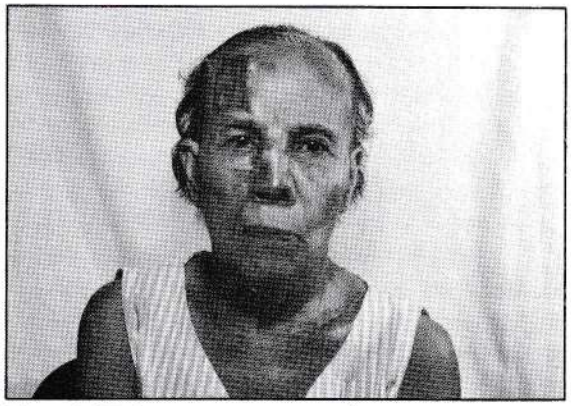

Fig. 4 10 days post-operative appearance

subcutaneous plane carrying 2 to 3 mm of underlying fat. The distal part of the flap is defatted leaving only the dermis and epidermis intact. Then, hinged on its predominantly subcutaneous base, the flap is turned over medially like the page of a book and sutured to the mucosa of the pyriform laterally and the septum medially. The donor site is closed primarily and hides in the nasolabial fold.

Case B

This fifty-eight-year-old retired policeman with a deeply infiltrating basal cell carcinoma of the left ala of three-year duration required full-thickness excision of the left alar rim and base (Fig. 5). Frozen section revealed no tumor cells in all margins of resection

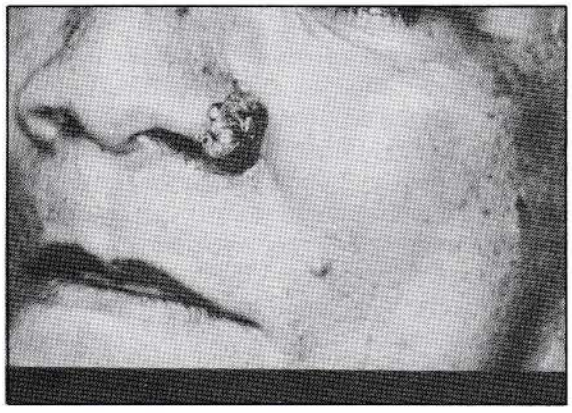

Fig. 5 Infiltrating basal cell carcinoma prior to surgery

Immediate reconstruction was performed using bilateral nasolabial flaps- an ipsilateral, medially based flap to provide internal lining and a contralateral superiorly based flap to serve as an external cover.

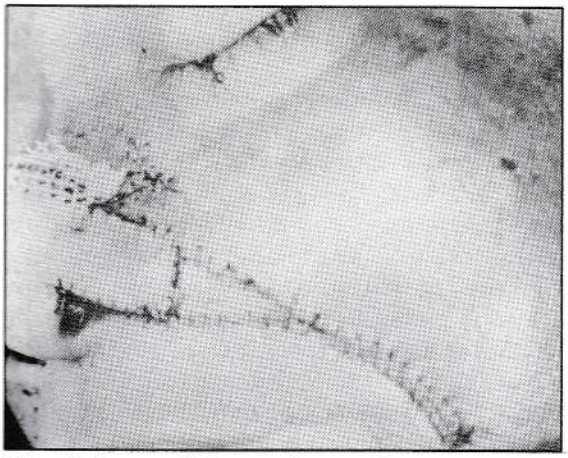

Fig. 6 Immediate postoperative appearance with defect closed by bilateral nasolabial flaps

A conchal cartilage graft was used to reconstruct the left lower lateral cartilage. Immediate results were satisfactory (6). A second-stage release of the contralateral transport flap was done after ten days. A few days after surgery, it was apparent that revision would be unnecessary.

Comment

For lining, the ipsilateral medially based subcutaneously pedicled island flap was again utilized but with another twist- only the proximal portion is turned over. The distal portion was advanced into the defect left by the proximal flap. Donor site of distal flap was closed primarily.

A template was used to approximate the left alar defect. It was then marked on the most distal portion of the contralateral superiorly-based nasolabial flap. The flap was raised in a subcutaneous plane and rotated in an arc of about 80 degrees. The transport flap was laid on top of the nasal dorsum, wrapped in protective Framycetin sulfate (Sufratulle) dressing. The covering flap was meticulously sutured to the alar rim and crease.

An appropriately positioned ala was reconstructed. External suture line was well camouflaged in the alar crease and after release of the pedicle, the tip-alar junction.

After a delay of about 10 days, the flap was released and the transport flap returned to the nasolabial junction.

DISCUSSION

The nasolabial flap ranks high in most nasal reconstruction. The donor site has abundant and mobile tissue and is readily accessible and easily obtained, providing simplicity of transfer unparalleled by any other local flap. It rarely leaves a significant donor deformity. It has an excellent color match. Because of its excellent vascularity, the flap may be raised on a base as narrow as 10-15 mm and yet can be expected to survive a length four times that. It is a random skin flap, as the facial and labial arteries run deep to the facial mimetic musculature. It exhibits a "degree of axiality", however, that ensures perfusion to its distal portions, because of the abundant subdermal plexus from the facial artery, infraorbital artery and dorsal branch of the ophthalmic artery, aligned in a generalized axial pattern.

The versatility of the nasolabial flap has been the subject of several reports in the past. Our experience with two cases highlights variations to an already versatile classic flap.

Essential to nasal reconstruction are lining, external covering and support. The nasolabial flap fulfills the first requirement. Other method of forming a lining leaves much to be desired. Split or full-thickness skin grafts can be placed on the undersurface of a covering flap but shrinkage may be a problem. Adjacent nasal skin can be inverted (flip-flopped) but not enough adjacent tissue may be available to provide a complete lining. Forming a lining by folding the donor flap on itself has the advantage of being done in one stage and there is not much shrinkage unlike in skin grafts. This may, however, produce undesirable bulk. An alternative local flap is from the forehead but the scar in the exposed donor area is worth considering.

Precisely because of the above considerations, the nasolabial flap has an

edge. Our variation of the flap offers even more advantages. Versus the classically described superior and inferior bases, the medial base offers a rich blood supply and yet closely mimics the position of the original alar base. The important vessel for the medially based nasolabial flap is the superior labial artery. This artery and its branches have been constant in all the cadavers studied by Herbert, though it can take off from the facial artery or the transverse facial artery. This variation can be noted in only half of the face. The alar branch gives off between 7 to 12 branches to both nostril and cheek every 2 mm or so, and anastomoses with terminal branches of the facial artery, transverse facial artery, infraorbital artery, sphenopalatine artery and the dorsal nasal and anterior ethmoid branches of the ophthalmic artery. There is a constant arterial ring or arcade at the pyriform aperture and its perforating branches supplying the overlying skin and subcutaneous tissue showing that this is of the axial patterned variety.

In patients with very large nasal basal cell carcinomas extending into the cheek, as in our first patient, the use of a homolateral superiorly based flap may not be feasible. An ipsilateral medially based flap was the easy answer, in sharp contrast to the rather complex and unnecessary contralateral tunnel flap technique described by Santos and Peppers for a similar case, or the additionally scarring island forehead flap technique by McCarthy and Converse.

Another modification was the defatting of the distal part of the flap leaving only the dermis and epidermis intact. Keeping a generous subcutaneous pedicle at the base, viability of the flap was assured, while keeping the lining thin to prevent bulk and stenosis.

Still another modification was introduced in the second patient. Only the proximal portion was turned over and used as lining, while the distal flap was advanced into the resulting donor defect. With a suture line at the alar crease, definition of the alar-cheek junction was recreated, thus avoiding loss of this anatomic landmark. Advancing the flap would avoid primary closure of the donor site. The advancement flap would also assist in the nutrition and vascularization of the contralateral nasolabial covering flap.

The nasolabial flap fulfills the second requirement. A more limited defect over the ala and lateral nasal area as depicted in the second patient was reconstructed with a similar lining but with a contralateral superiorly based nasolabial flap as cover.

The superiorly based nasolabial flap is most useful for deep central and lateral nasal dorsal defects and defects of the nasal ala and tip. It has enough blood supply for good viability and usually is easier to handle as it conforms better to the anatomy of the are. Compared to the inferiorly based flap, the donor area for the superiorly based flap is also easier to close as it is raised from the lower cheek tissue, which is usually under less tension. Potential complications include pincushioning, flap necrosis and blunting of the nasofacial and nasolabial sulci.

The third requirement, support of the nasal dorsum and tip projection, was not met by the any of the variations of the nasolabial flap. When used as a lining however, as in the medially based turnover flap, a good cleavage plane can be created between the lining and covering flaps. This facilitates a staged or even a primary support reconstruction by done, cartilage or in this case, Medpore.

CONCLUSION

For its versatility, simplicity of transfer and skin quality, the nasolabial flap ranks high in nasal reconstruction.

A modified ipsilateral medially based nasolabial flap on a predominantly subcutaneous pedicle yields a reliable reconstruction of the nasal lining. As a covering flap, a contralateral superiorly based nasolabial flap is presented as a functional and aesthetic technique for alar reconstruction.

Our experience has shown that alone or in combination with another flap; as an internal lining, external cover, or both; superiorly or medially based, the nasolabial flap rises to the challenges posed by nasal reconstruction.

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Mandibular Osteomyelitis: An Unusual Form Of Tuberculosis*

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ABSTRACT

OBJECTIVES:

The objectives of this paper is to present a case of mandibular swelling which turned out to be a rare case of extrapulmonary tuberculous infection. This paper hopes to alert Otolaryngologists and physicians in general, regarding the existence of such condition. It also aims to make them aware of the magnitude of tuberculosis as a health problem.

DESIGN: Case Report

SETTING: Hospital

NUMBER OF PATIENTS: One

RESULTS:

A poorly nourished 10-year old Filipino child presented with painless mandibular swelling and draining sinuses of nine-month duration which do not respond to antibiotics. Panoramic view of the mandible revealed extensive trabecular and cortical rarefactions with periosteal lefting consistent with osteomyelitis. Chest X-ray showed semicircumscribed density in the right parahilar and paracardiac region. Tuberculin test was positive. Histopathologic report was signed out as caseating granulomatous inflammation. However, culture of discharge showed growth of Acinetobacter. AFB and KOH smear were negative. Mycobacterium tuberculosis and anaerobic culture showed no growth.

CONCLUSION:

This is a rare case of mandibular tuberculous osteomyelitis from a primary pulmonary infection. Tuberculosis still remains to be a major global health problem. A high index of suspicion and a keen clinical eye are in order to arrive at the diagnosis, thereby obviating delays in administering appropriate therapeutic interventions. In so doing, mortality and morbidity can successfully be prevented. The authors propose the screening of high risk individuals, the administration of more effective vaccines for tuberculosis, strengthening of public health infrastructure and upgrading of the general living conditions of the people.

INTRODUCTION

Since time immemorial, tuberculosis has been one of the most prevalent infections of human beings. The disease has proven to contribute considerably to illness and death around the world. Globally it is estimated that approximately one-third of the world population has been infected with *Mycobacterium tuberculosis*. Eight million new cases of tuberculosis occur each year (18).

The most important factor which contributes heavily to morbidity and mortality brought about by this dreadful disease is poverty. As such, infections caused by these acid-fast

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bacilli assume an important place in third-world countries like ours.

In the Philippines, tuberculosis ranks as the fifth common cause of illness and death with at least sixty-two Filipinos dying of the infection each day. Moreover, as many as thirty-two million Filipinos have been estimated to have the disease (20).

Tuberculosis is primarily a pulmonary problem but extrapulmonary lesions may be seen in developing countries. Diagnosis of extrapulmonary foci may be very difficult. Serologic studies have largely failed whereas bacteriologic studies are expensive, time-consuming, and yield low rates of positive results (27).

The objective of this paper is to present a most unusual symptom of a common infection which has not yet been reported in any local scientific journal. This is a story of a boy with a rare form of extrapulmonary tuberculosis – mandibular tuberculous osteomyelitis. What made his story interesting was the idiosyncratic presentation of a disease endemic locally but remains to have an enormous impact worldwide. Moreover, this paper aims to make Otolaryngologists and physicians in general, aware of the magnitude of this health problem. Furthermore, this paper hopes to alert these health providers to the existence of such a condition.

CASE REPORT

In February 1998, a 10 year old poorly-nourished boy from Pasig City consulted at the Out-Patient Department for generalized painless mandibular swelling.

Condition started in May 1997 (9 months PTC), when patient experienced tenderness and localized swelling around the parasymphyseal area of the right mandible after hitting the pavement when he fell from a bicycle he was riding. Consult was sought in a government hospital where radiography of the mandible was done revealing soft-tissue swelling with no evidence of fracture noted. He was given PhenoxymethylPenicillin and Mefenamic Acid which he took for one week. Tenderness was noted to subside totally but swelling persisted.

In August 1997 (6 months PTC), with the mandibular swelling and multiple submandibular sinuses persisting, a right nasomaxillary swelling was then noted with a small draining sinus secreting same material as the ones in the submandibular area. Patient sought another consult and was given Metronidazole and Povidone-Iodine oral antiseptic which he took for several weeks. Condition however, persisted.

With the persistence of the painless mandibular swelling, patient sought consult in our institution and was subsequently admitted for further work-up and management.

Patient received primary immunization including BCG during his earlier years. He lives in a one-room house with six other family members who are all apparently healthy. He has poor oral hygiene and rarely brushes his teeth. Birth history, developmental history, past medical history, family medical history, and review of systems were unremarkable.

On physical examination, patient was noted to be poorly nourished and underweight. There was note of diffuse mandibular swelling (See Figures 3,4&5) which also involved the overlying soft tissue of bilateral submandibular areas and submental area. Swelling was non-tender, not warm to touch, and leathery firm in consistency. No crepitation nor step deformity was noted on palpation. Four draining sinuses were noted on the submental and submandibular areas secreting yellowish, non-foul smelling

purulent material (See Figure 6). On mouth opening, inter-incisor distance was noted to be 2.0 centimeters. The mucosa of the oral cavity was noted to be pinkish with no lesion noted except for carious teeth in the right upper pre-molar, right first and second lower molar and lower first molar (See Figure 7). The nasomaxillary area was also swollen with small draining sinus noted on the right nasomaxillary groove (See Figure 3). No cervical lymphadenopathy can be appreciated. The rest of physical examination was essentially normal.

Complete blood count revealed anemia (Hgb of 8.0 g/dl and Hct of 27.6%) with normal white blood count and differential count. Urinalysis and stool exam were normal. Paranasal sinus radiography revealed slight periosteal thickening involving the right maxillary sinus. Gram stain of mandibular discharge revealed no microorganisms seen with few pus cells noted. Culture however showed moderate growth of *Acinetobacter species* with a wide variety of antibiotic sensitivity. Chest x-ray revealed semicircumscribed density in the right parahilar and paracardiac region. Mantoux test was positive with wheal-formation on volar surface measuring 13.0 centimeters after 48 hours.

A consensus was reached by the Otolaryngology-Head and Neck Surgery service to do Curettage and biopsy of the mandible. Excision of multiple submandibular sinuses, and Exploration of nasomaxillary area with sinoscopy under general endotracheal anesthesia. Intra-operative findings were multiple cystic lesions containing white cheesy material involving the whole mandible. No clue for any old fracture could be noted. The nasomaxillary soft tissue area overlying the right anterior maxillary wall has plenty of granulation tissue. There was also note of yellowish non-foul smelling purulent material. Maxillary sinus mucosa was pinkish with no lesion noted.

Histopathology result of mandibular bone biopsy, submandibular tissue and cheesy material from submandibular sinus was signed out as caseating granulomatous inflammation consistent with tuberculosis while granulation tissue from right nasomaxillary area was signed out as chronic inflammation and granulation tissue. AFB smear and KOH smear were negative while anaerobic culture and MTB culture on Lowenstein-Jensen medium revealed no growth.

CASE DISCUSSION

Mandibular swelling as a symptom poses a diagnostic challenge to an Otolaryngologist-Head and Neck surgeon. Broadly, it may be due to a congenital, an infectious, or a neoplastic process.

The medical history, clinical findings and course of the disease process previously described is highly suggestive of an infectious origin, the most common etiology of mandibular swelling in this age group. Congenital and neoplastic diseases are generally localized and more insidious in onset compared to that seen in this case which is more diffuse and rapidly progressive.

Mandibular radiography revealed osteomyelitis which indeed is an infectious process. However, two important questions must be answered to enable us to administer the appropriate therapeutic modality.

The foremost question which must be answered is regarding the factors which may have brought about the mandibular osteomyelitis. This traces the root of the problem. Clinical history points to trauma as the possible culprit whereas physical findings implicate odontogenic infection.

Mandibular fracture may have caused non-union or malunion of the

bony fragments which may be conductive foci of infection. This is by virtue of alteration in pH and stasis (21) confounded by anemia and nutritional inadequacy on the part of the child. However, several points may be raised against this hypothesis. There was no sign of fracture on the radiograph done immediately after trauma. Moreover, mandibles of children are known to be quite resistant to fracture on account of the resilient character of the developing bone. Children have thicker layers of adipose tissue cushioning the mandible during impact (29).

Odontogenic infection is another probable source of osteomyelitis in this case. A carious tooth may incite inflammatory reaction and edema which may increase pressure enough to cause necrosis of the pulp. Ischemia and necrotic pulp are fertile grounds for bacterial invasion which may in time include the mandible, soft tissues and fascial spaces (2).

Odontogenic infections are usually polymicrobial in nature. They are mainly caused by anaerobes and gram-positive organisms, notably *Streptococcus (8)*. On admission, Clindamycin was administered to the patient through intravenous route. However, no clinical response was noted after several days of therapy.

An equally important question that needs immediate answer would be the etiologic pathogen responsible in this case. Osteomyelitis in children is most often caused by *Streptococcus aureus* which accounts for sixty to ninety percent of cases (26) which should be responsive to the initial antibiotics given to the child. Most patient will also exhibit pain and a toxic febrile course which were not evident in this case.

With history of previous trauma and carious teeth, cervicofacial actinomycosis should also be considered. This disease usually presents as chronic slowly progressive painless swelling of the mandible ar cervicofacial area with multiloculated abscess and draining sinuses (3). Proper collection, transport, and culture of specimen under anaerobic conditions are essential for the growth of *Actinomyces israeli*. Diagnosis is difficult because of fastidious growth requirements of this organism. A purulent actinomycotic discharge contains sulfur granules that appear a whitish, yellowish, or brownish granular bodies (16).

Culture of submandibular sinus discharge revealed moderate growth *Acinetobacter species* sensitive to a wide variety of antibiotics. *Acinetobacter* are gram-positive bacilli which are widely distributed in nature and in the hospital environment. They are normal inhabitants of moist surfaces of healthy human skin. Chemical isolates are more often colonizers rather than genuine infecting agents (17). In this case, the authors believe that growth of *Acinetobacter* on culture was highly doubtful. This gram-positive bacilli may be merely contaminants since these organisms are rarely invasive and are known to be an unusual cause of infection in men.

In a poorly nourished underweight 10 year old Filipino child with painless osteomylitis and draining sinuses which do not respond to antibiotics, we think of other possible causes. Possible causes would be granulomatous and mycotic infections. In the Philippines, tuberculosis is the most common culprit. The patient was then worked-up along this line. Chest x-ray was done revealing right hilar lesions while Mantoux test was positive. This was further strengthened by the final histopathologic report which was signed out as caseation necrosis. The results of these ancillary procedures are highly suggestive of a tuberculous infection.

The mandible is an unusual site for tuberculous infection. No case has yet been reported locally and there are

only six reported cases internationally (1)(12)(15)(24)(25)(28). In the Philippines, most common sites of tuberculous skeletal infection would be the spine, hips, knee, and ankle, in decreasing order.

With the presence of these ubiquitous bacilli in the mandible, the bodys' immune mechanism would send mediators of inflammation to counteract the infection. Once infection has started, the local decrease in pH, the edema, and the accumulation of leukocytes all contribute to tissue necrosis and breakdown of mandibular trabeculae. The infection extends to neighboring bone, occludes vascular channels and causes death of more osteocytes in the process (See Figure 1). Larger segments of bone deprived of blood supply by this process of vascular compromise may be separated and form sequestra. These act as foreign bodies rendering eradication of by antibiotics impossible until the devitalized bone is removed (26).

The tuberculous suppurative process may also produce septic thrombophlebitis which may progress to the formation of subperiosteal infection. Subperiosteal infection may induce exuberant growth of periosteum which is called involucrum (34).

Progressive chronic destruction of the cortex may be complicated by spontaneous pathologic fracture. Once the necrotic inflammation has reached the periosteum, tunnelling sinuses may extend into adjoining soft tissue and drain to skin surface producing multiple draining sinuses as what happened in this child. The infection may also dissect through muscle sheaths and fascial planes. In mandibular infections, the primary spaces commonly involved are the submental, sublingual, and submandibular spaces. If the infection from these primary spaces proceeds posteriorly, the secondary spaces (masseteric, pterygomandibular, and temporal spaces) may also be involved by the infection (8).

The rarity of mandibular tuberculosis demands an explanation for the pathogenetic mechanism of this infection – how the mandible got infected. We propose several theories to explain the involvement of the mandible by the infectious process in the light of the dissemination characteristics of this mycobacterium (See Figure 2).

Hematogenous spread is the most accepted theory of tuberculous dissemination. Infection by Mycobacterium tuberculosis is pneumonic in its early course. Once they enter the alveolus, they become phagocytosed by alveolar macrophages. Because of their high resistance to destruction, these virulent mycobacteria multiply within the macrophages. When the numbers of tubercle bacilli become significantly large, an inflammatory reaction will appear. With continued multiplication, infectious bacilli will be disseminated primarily by way of lymphatics. There is early and extensive involvement of the hilar lymph nodes which may be evident on chest x-ray as in this child. At the same time, there will be spillover from the lymphatics to the bloodstream with seeding of virulent tubercle bacilli in almost any organ or tissue in the body (23), in this case, the mandible.

Another theory that we propose is self inoculation from infected sputum. People with primary pulmonary infection may cough out bacilli in their sputum. As in this boy, the carious teeth may have exposed the pulp area and made it vulnerable to these mycobacterial bacilli present in sputum or saliva. Once the bacilli have invaded the pulp area, it may spread to the contiguous mandible where the infected pulp sits (13). An exposed tooth socket commonly seen in patients with odontogenic infection and poor dental hygiene may also serve as pathways of spread by these invasive bacilli.

Another plausible hypothesis is through reactivation by trauma. It may be that the patient may have subclinical bacillary. seedings in the mandible. This can be due to spilloever from hematogenous spread or may be a part of a miliary infection. Because of trauma to the mandible from the fall from a bicycle, these destructive bacilli may have been unleashed from their dormant state, started to multiply and incited an active infection in the mandible. This theory is supported by a local study wherein forty-seven percent of cases of skeletal tuberculous infection had trauma as a contributory factor. This study emphasized that the onset of signs and symptoms in these patients were traced directly to the accident. The authors concluded that trauma may convert a quiescent focus into an active one (11).

In our case, it is important to note that patient received BCG immunization in early life. Still, patient developed pulmonary and extrapulmonary forms of tuberculosis. BCG vaccination is regarded as the simplest, safest, most economical and most effective measure for the prevention of the disease. However, it has also been demonstrated that BCG vaccination does not give one-hundred percent protection from the disease. This may be due to vaccine properties such as varying potency, improper preparation, storage and administration. Most importantly, it is also affected by host factors such as nutritional status (23). In this case, the child has poor nutritional status.

Various ancillary procedures have been done in this case to document the existence of tuberculous infection. Tuberculin test was positive in this case but it may be negative in as high as fourteen percent of cases with the disease (4). Chest radiograph findings were suggestive of a Koch's infection. It may however be normal in small lesions or in rare cases of primary extrapulmonary infection. Extrapulmonary disease may remain undetected when chest radiography is normal. AFB smear was negative but this procedure has really low yield for tubercle bacilli. MTB culture on Lowenstein-Jensen medium showed no growth. In medicine, however, a negative test result means nothing. It does not exclude the possibility of the true existence of tuberculosis. Finally, the histopathologic result is merely suggestive of a tuberculous infection. However, with our national setting, high index of suspicion, and the clinical course of the disease process, we are diagnosing the mandibular swelling and multiple draining sinuses as a case of Mandibular Tuberculous Osteomyelitis.

CONCLUSION AND RECOMMENDATION

In summary, we have presented a case of a 10-year old boy with diffuse mandibular swelling and multiple draining sinuses which turned out to be a tuberculous infection.

Tuberculosis is a treatable disease but its' manifestations are protean making it very elusive to diagnosis. Early diagnosis is a must to prevent delay of subsequent treatment and management which may mean increase in morbidity and mortality. There may be a myriad of laboratory tests available in our scientific arsenal to diagnose the existence of a tuberculous infection. Sometimes, they may not be very conclusive. A high index of suspicion and a keen clinical eye are in order to arrive at the diagnosis, thereby obviating delays in administering appropriate therapeutic interventions. By so doing, life threatening spread of the disease can be successfully prevented.

In the light of this case, we propose that tuberculosis should always be ruled out in patients with complaint of painless mandibular swelling unresponsive to antibiotic therapy. In the same token, any case of chronic

osteomyelitis in high risk individuals should always be worked-up to exclude tuberculous infection.

Amidst the technological advancements of this age, tuberculosis remains to be a global blight. It has been regarded as the world's leading cause of illness and death from a single infectious agent (33). The rising incidence is not only confined to third world countries but industrialized nations also have their share in the global holocaust brought about by tuberculosis.

The sole cure to this health problem is prevention. The authors recommend prevention by means of more effective BCG vaccinations, improvement in nutrition and housing, better ventilation of homes and work sites, screening for high risk individuals and strengthening of public health infrasturcture for the control of tuberculosis.

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