INTERESTING OBSERVATIONS ON PRIMARY ATROPHIC RHINITIS

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Abstract: Primary Atrophic Rhinitis (PAR) which has baffled the physicians of the past and the present ENT surgeons, till now, is found to have strong clinical evidence to suggest it to be of Hansenitic origin. A rational review of literature, elicitation of the cardinal signs of leprosy - in its indeterminate paucibacillary form, and the similarity of the symptomatology between these two diseases corroborate this view. This is further sustained by observing it cured with antileprotic drugs which brings a new hope for these patients. It also unfolds a new horizon on further research on this disease.

Abbreviations: PAR : Primary Atrophic Rhinitis; SAR : Secondary Atrophic Rhinitis; p.n.a.s. : paranasal air sinuses; MDT : Multi Drug Therapy (rifampicin, clofazimine, dapsone); ROM - rifampicin, ofloxacin, minocycline; M : leprae - Mycobacterium leprae.

INTRODUCTION

Primary Atrophic Rhinitis (PAR) is a disease usually with symptoms of horrible stench from nose, so it is also known as ozaena. It makes the patient socially rejected leading to divorce, suicide, depressive psychosis and many other stigmas. The disease being of unknown etiology was not amenable to any prevailing treatment.

During teaching, Post Graduate guidance and day to day practice some interesting observations on the similarity between early Hansenitic disease and PAR was made. This lead to the present study to establish the most probable etiology and a successful treatment.

REVIEW OF LITERATURE

PRIMARY ATROPHIC RHINITIS (PAR)

Prevalence of this disease, PAR, in prehistoric era was noted from the world’s oldest mythology - The Mahabharat of VyasaDev. Here an ascetic saint Parasar could love and give sensual pleasure to a lovely lady who was despised in the society and was leading a melancholic life for the horrible stench she was emitting. She was known as ‘Maschhya Gandha Kanya’ - the fishy damsel for her putrid feter.

Until now the Atrophic Rhinitis is classified as Primary Atrophic Rhinitis (PAR) where the exact etiology is not known and Secondary Atrophic Rhinitis (SAR) where the disease is the manifestation of other diseases like Leprosy, Tuberculosis, Syphilis, etc.

ETIOLOGY

It is un-substantiated in PAR. The causes guessed are - the result of chr. p.n.a.s infection or purulent rhinitis; endocrinological disturbances; autonomic nerve imbalances; a result of infection by organisms like Cocacobacillus of Perez, diphtheroid organisms, Coccobacillus foetidius ozoeni etc. The effect of undue roominess of the nose is considered as another important causative factor.

TREATMENT

Uncertain etiology makes the treatment baffling. The usual practice are nasal wash; anhydrous glucose in glycerin or chloromycetin nasal drop and systemic administration of hormones, placental extract, streptomycin, vitamins and minerals. The surgical treatment, based on undue roominess of nose, is to narrow the nasal passages like submucosal stitches, shifting of the lateral nasal wall or lifting the floor or the sides of the nose with implantation like dermis flap, placental tissue (Singh 1993, Ramanjaneyulu, 1976) or with injection of teflon paste. All are with variable claims of success. The recent approaches to deal with chronic infection by endoscopic sinus surgery (ESS) (Fang et al., 1998) is of no significant value.

PATHOLOGY

It was extensively studied by Miles and Tayllor (1961) who found that the chronic rhinitis leading to endarteritis and periarteritis of the terminal arterioles results in atrophic pathology. The atrophic changes of turbinates and nasal bones produce roominess of nasal cavity and there occurs atrophy of olfactory nerve that causes anosmia.

LEPROSY

This disease is also found mentioned in Mahabharat. Shamba, the son of lord Krishna, had been affected by this disease.

Symptomatology

Leprosy manifests in widely variant forms. A patient may have a single hypopigmented or erythematous patch not typical of other skin lesions. This patch may be as small as few mm². It may disappear spontaneously or with a single dose of ROM (rifampicin, ofloxacin and minocycline). This would make the patient forget if he had ever suffered from leprosy. Similarly an otherwise normal person may develop anaesthesia in one or more finger tips or get thickening of one or more nerves, here and there. That would be the only manifestation of leprosy. This makes the patient and the physician miss the disease frequently. The disease in this form is classified as the paucibacillary indeterminate
leprosy. At this stage the resistance of the host and the infecting M. leprae are in a struggling balance.

At the other end, in lepromatous form, this disease manifests with gross deformities like leontine face, destroyed fingers and foul smelling ulcers over various parts of the body. Naturally the fear of infection with this form of the disease brings a picture that is horrible, abominable and gloomy. Now leprosy, however severe its manifestation might be, is curable with MDT (Multi-Drug Therapy). But still the disease sounds an alarm of dread, horror and terror.

**Diagnosis of Leprosy**

The definitions recommended in relation to diagnosis of leprosy by the World's top leprologists (WHO, 1990) are the following cardinal signs. (a) A single or multiple hypopigmented or erythematous lesions not typical of other skin diseases; (b) Loss of sensation (thermal, pain and/or touch) with or without skin lesion; and (c) Enlarged nerve, either trunk or cutaneous.

In addition the following features are suggested as equivalent to cardinal signs: (d) AFB in slit skin smears; (e) definite histopathological evidence of leprosy (e.g., peri and intraneural inflammation and/or evidence of nerve destruction and/or AFB in typical sites).

Accordingly the directions led down by WHO authorities to diagnose leprosy are:

- Leprosy could be suspected if one of the above cardinal sign is present.
- Early leprosy is present if two cardinal features but no disability are found.
- Advanced leprosy is present if lesions are extensive and/or there are disabilities.

**Recent advances**

Serology and immunological advances are promising aspects in research in leprosy. The following views of WHO authorities and other workers are given below.

Serology and active case finding in leprosy is still limited to research studies and in some special situations (WHO, 1990).

Applications of skin testing and immunological studies are presently on experimental application to facilitate epidemiological monitoring of the disease in community (Brenn, 1996).

So these aspects were not considered in this study.

**AIM AND OBJECTIVE**

Leprosy in its paucibacillary stage - specially in its indeterminate form - frequently defies detection due to its inconspicuous clinical manifestations. So an atrophic nasal manifestation of leprosy at this stage is PAR by its definition. Neurological manifestations like anosmia, parosmia and vascular changes like endarteritis obliteration are identical in both the diseases.

Autonomic nerve involvement in leprosy leading to the diminution of secretions of the mucosal glands and decreasing ciliary rhythm of nasal mucosa leads to the formation of crusts which, when infected, emit the foul smell. These are also the common manifestations of PAR. Therefore a postulate that the PAR is a manifestation of the quiescent form of nasal leprosy is expected to be logical.

So a study with an aim to verify and correlate these facts was taken up.

**MATERIAL AND METHOD**

Cases of clinically diagnosed PAR who had failed in conventional form of treatment else where with surgery and medicine were taken up.

Nasal symptomatology was noted. The state of neural involvements else where in the body like the loss of tactile and thermal sensation, nerve thickening and tenderness, skin hypopigmentation were assessed rather probed-as these are the few cardinal signs for the early diagnosis of leprosy (WHO 1990). These signs almost always escape the attention of the ENT specialists. If at all, these are in a well manifested form; it is termed SAR indicating leprotic origin. The pin prick and the pressure sensation were inconclusive and positive in some cases only (Tzourio et al., 1989, Grimaud et al, 1992) and so abandoned.

The cardinal signs of early leprosy remain to hole and corners in presence of so conspicuous symptomatology of PAR that the author himself never felt the necessity of exploring these signs and so conducted many surgeries for PAR which are frequently mutilating and make the patient suffer more than flesh and blood could bear.

During the early plan of the study all cases of PAR were sent to the Skin, VD and Leprosy Department of M.K.C.G. Medical College, Berhampur, Orissa, India. From there frequent return of patients with no sign of hanseniotic manifestation did occur. In few occasions the dermatologists admitted to have missed the findings - exactly it is impossible to find the cardinal signs of early or indeterminate stage of leprosy in a busy outpatient's department. Inter-observers variation (Gupta et al., 1990) do occur. In our case it was solved after mutual discussions.

A total of 178 cases were taken up for the study. Only 64 cases were available for regular follow up. Nasal biopsy and smear from some cases could find no AFB. More over the other authors who worked on this aspect could find many other organisms but not AFB (Taylor et al, 1961). So this consideration was abandoned. Since all the cases were hopeless of their previous treatments, they gave their consent readily to volunteer for the study.

**TREATMENT**

The drugs tried were the antileprotic drugs like rifampicin, dapsone (DDS) and clofazimine, in their therapeutic doses as per Multi Drug Therapy - MDT - (WHO, 1982) for multi bacilli cases.