Aural myiasis

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Abstract

A SERIES of 14 cases of aural myiasis is reported. In no case unassociated with otitis media was perforation in the tympanic membrane seen. Local treatment with turpentine oil or ether was prescribed.

Myiasis may be defined as infection of vertebrates with the larvae (maggots) of *Diptera flies* which feed on the tissues of the host. It has also been called 'Peenash' or 'Scholichiasis'. It is usually seen in the tropics. Myiasis is a far greater problem in sheep, cattle and deer than in man and there is no form of myiasis found exclusively in man. It may involve the nose, ears, eyes, mouth, tonsils, teeth, tracheostomy wounds, skin, vagina, urinary bladder and intestinal tract.

Myiasis is produced by flies belonging to the Calliphoridae, Sarcophagidae, Gastrophilidae, Cuteribridae and species of Musca, Famina, Chrysomyia, C. vicinia, C. americana and the Tumbu fly. As reported by Sood *et al.* (1976) the commonest genera are Sarcophagidae. Rao (1929) reported that the causative flies for myiasis in India belong to the Muscae and Sarcophagadae.

Myiasis of the ear is very rarely seen. The earliest report so far available in the literature is that by Brauneck in 1949, followed by others from Sahay (1959), Mishra and Mehta (1960), Bhatia and Dayal (1975), and Sood *et al.* (1976).

In the present series 14 cases of aural myiasis out of 48 cases of myiasis seen during the period from 1965 to 1977 are presented. Of the remaining 34 cases 29 were of nasal myiasis and 5 of nasopalatine myiasis.

Observations

Aural myiasis comprises only 0·01 per cent of the total cases seen in the E.N.T. department and 29 per cent of all types of myiasis seen during the period 1965 to 1977.

The minimum age was 1 year and the maximum 35 years, but the maximum incidence was below 5 years of age. No sex predisposition was observed. Out of the 14 cases of aural myiasis, the male-to-female ratio was 1·16:1.

TABLE I

Features	Total cases	Percentage
1. Pain in ear	13	92
2. Discharge from the ear	10	69
3. History of C.S.O.M.	9	62
4. Blood-tinged discharge	4	31
5. Granulation in the ear	3	23
6. Ulcers over pinna	3	23
7. Otitis externa	2	16

The above-mentioned features were noticed in decreasing order of frequency. Otalgia dominated the scene (13 cases) followed by discharge from the ear (10

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cases). A history of C.S.O.M. was presented in 9 cases, where the duration ranged from 2 months to 20 years. The discharge was purulent and foul-smelling. In 4 cases the discharge was blood-tinged and in 1 there was frank bleeding from the ear. Out of the total number of the cases, in only 9 did the patient give a history of maggots crawling out of the ear, although in all cases on physical examination maggots were visualized. The duration of maggots falling from the ear varied from 1 to 12 days. Ulceration of the pinna and granulations in the ear were each present in 3 cases. Associated otitis externa was present in two cases. In 9 cases the tympanic membranes were perforated but they were found to be intact though congested in 5 cases.

TABLE II

Predisposing factor	Total number of cases	Percentage
1. C.S.O.M.	9	64
2. Ulcer	2	14
3. Otitis externa	2	14
4. Peri-chondritis	1	8

The above-mentioned predisposing factors were noticed in decreasing order of frequency. C.S.O.M. was seen to be responsible in the majority of cases.

All these cases of aural myiasis were seen during the period from May to December with a peak of three cases in the month of July. The majority of patients belonged to the low income group.

All the patients were treated with turpentine oil douching, drops and dressing which worked satisfactorily in only six cases: in the remaining eight cases ether drops were used and the maggots were removed physically. All cases were kept on parenteral penicillin.

Out of the 14 cases of aural myiasis complications were seen in only two. One patient developed cellulitis of the ear, and perichondritis was seen in one patient. In no case was facial paralysis, erosion of the bony canal or involvement of the inner ear observed.

Discussion

Myiasis of the ear can occur in two ways. It is a common belief that the fly sits over the ear and hatches eggs which burrow deep into the ear and are transformed into larvae. Sood *et al.* (1976) are of the opinion that the above-mentioned view cannot be responsible for the majority of cases of myiasis, although it may be so in infants and mentally-retarded people. They believe that the eggs are hatched somewhere else and are then transported unknowingly by some means to the ear.

Two days after the eggs have hatched they are converted into larvae. The larval period lasts from 2–7 days, but it may be prolonged in cold weather. They are ultimately converted into pupae and then the adult worm ultimately falls to the ground. In two of our cases the larval stage lasted for 10–12 days. These patients were examined in the month of July, 1977. This lengthening of the larval stage may be due to recurrence of infestation by the fly, or to the fact that the temperature of Ranchi is moderate even during the months of May–August.

In the present study the age incidence varied from 1 year to 35 years, with a

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maximum incidence below 5 years of age. Bhatia and Dayal (1975) found the maximum incidence in the age group below 10 years. No case has been recorded before the age of 10 years and none above 35 years. The maximum incidence in children may be due to improper care of children superimposed on unhygienic living conditions, especially where they belong to a low socio-economic group, as flies are known to be attracted by the foul smell emanating from dirty, putrified and infected areas or tissue.

Almost all our patients complained of pain in the ear, but only 69 per cent gave a history of ear discharge, in contrast to 100 per cent as reported by Sood *et al.* (1976). This incidence of otalgia was slightly higher than in the series reported by Bhatia and Dayal (1975). In no case was malignancy observed as a predisposing factor, although Bhatia and Dutta (1965) found it in 5 per cent of their cases.

In our own series the tympanic membrane was found to be perforated in only 9 cases although the larva is destructive by nature and tries to move away from the light. It has been reported by some workers that the larvae destroy the tympanic membrane. This has been explained by the characteristic habit of the larvae which, by their active wriggling movement, create a fresh wound in the deep infected cavity and, in trying to avoid light, prefer to hide themselves in the wound. But our observations in the present series were very different, as the tympanic membrane was found to be intact in 5 cases and perforated in the remaining 9 cases, only because there was pre-existing otitis media.

Bhatia and Dutta (1965) observed the incidence of aural myiasis from August to November, and Sood *et al.* (1976) reported its incidence from September to November. In the present series the incidence of aural myiasis was observed from May to December.

Two complications were observed, namely: cellulitis of the ear and perichondritis.

The regime of treatment of aural myiasis has alternated between topical medication and physical removal. Different workers have used different topical medicaments. Rao (1929) advocated a spray of 1:80 carbolic acid lotion; Landeman (1929) used douching by rectified turpentine; Brauneck (1949) advocated allantoin, with the least satisfactory results; Manson Bahr (1956) used insufflations of calomel powder; and Bhatia and Dayal (1975) used a combination of chloroform and turpentine. In the present series all the patients were initially subjected to simple turpentine oil drops and douching, which were successful in only 6 cases. In the remaining 8 cases ether drops were given followed by physical removal. Turpentine acts on the parasite as a stimulant and irritant, causing them to escape from the tissue. The action of ether is similar.

In 3 cases, turpentine oil application was followed by pain in the ear with a severe inflammatory reaction for which cortisone was used locally. This was not observed after ether application.

Penicillin was given systemically to prevent secondary infection. Proper aural toilet was maintained.

Myiasis may prove fatal, as reported by Schreiber (1964). But in our own series no fatality occurred and no recurrence was noticed in any case.

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