

SHORT COMMUNIQUE

## AURAL MYIASIS

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A retrospective study of 34 cases of aural myiasis managed during last 5 years are presented herewith. Majority (67.64%) of them were children below 8 years of age, though even as old as 72 years male was infested by maggots. The presenting symptom in majority of the cases was pain with blood stained discharge. All patients were maggot free in less than 2 days time by manually picking up maggots in multiple sittings.

Myiasis is a disease transmitted to humans through flies. The stage which is transmitted is egg. At the time of oviposition 16-54 eggs cement on the abdomen of the fly. When this fly alights on man, the body warmth causes the egg of the fly to hatch and first stage larvae then penetrate the skin of ear and other organs. Infestation of human beings by maggots has been reported mainly by dipterous larvae resulting in permanent alteration of anatomy of ear i.e. destruction of tympanic membrane, ossicles including pinna etc. It is more common in tropics. Aural myiasis affects all age groups and sexes but is more commonly seen in children below the age of 12 years. A series of 34 cases retrospectively analysed in a period of five years at Indian Institute of Ear Diseases, Muzaffarnagar, India is being presented here.

### MATERIALS AND METHODS

Patients attending Out Patients Department with the diagnosis of aural myiasis from July 91 to June 96 were the subjects of study. The maggots were picked up and reared in a case of blood agar plates with sawdust on their surface until the flies emerged.

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These flies were studied at the Zoology Department of Meerut University.

### OBSERVATIONS

In a span of five years 34 cases of aural myiasis were evaluated from all age-groups the youngest being 4 months old and the oldest 72 years (Table-1).

**TABLE 1: SIGNS AND SYMPTOMS IN AURAL MYIASIS**

No	Signs and symptoms	No of cases	%
<b>Presenting Symptoms</b>			
1.	Pain in ear	33	97.05
2.	Pain in ear with bleeding from ear	23	67.64
3.	Passage of worm	1	2.94
<b>Associated Symptoms</b>			
1.	History of CSOM	21	61.76
2.	History of otitis externa	11	32.35
3.	Ulcer over pinna	3	8.82
<b>Signs</b>			
1.	Perforation of TM	29	85.29
2.	Scalp wound	3	8.82
3.	Radical mastoid cavity	2	5.88



Fig 1 Maggot in a case of subtotal perforation

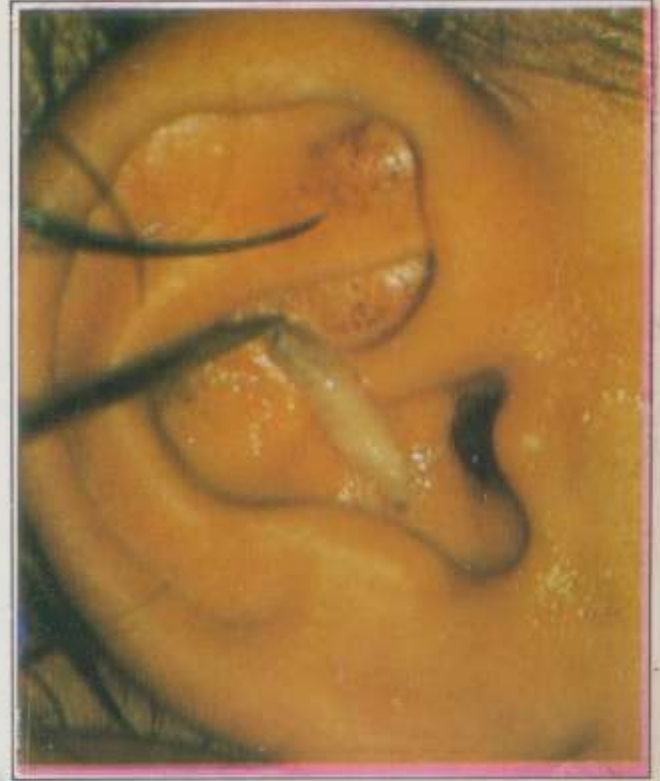


Fig 2 Maggot in a child of 2 yrs crawling out of ear canal



Fig 3 Maggots being sent for hatching: third instar. Larvae having unique identifiable feature of Diptera genus.



79.41% were below the age of 12 years. Males outnumbered the females. Majority of the patients (91.17%) were from poor socioeconomic status. There was no significant variation in urban/rural patients. Aural myiasis was observed mostly from May to December but mainly in the months of August and November. The main presenting symptom was pain in ear alone or in association with blood stained discharge. Only 7 cases were reported with worms passing from ear. On interrogation there was history of ear discharge (CSOM) in 61.76%, out of which 14.7% were above the age of 12 years including 5.88% (two) patients which were having radical mastoid cavity with granulations and 11 cases (32.35%) with acute otitis externa. In two cases no predisposing factor could be found out. Three patients in the age group of 1 to 6 years had simultaneous involvement of scalp with maggots.

All patients were treated with antibiotics, analgesic and sedatives. Cases associated with chronic ear discharge were treated with Norfloxin or Ampicillin and Cloxacillin combination, while in others either Roxithromycin or Amoxicillin were given for a period of 5 to 10 days. Maggots were removed manually by forceps in multiple sittings. A total of 5 to 14 sittings were required to eradicate the maggots. All the cases could be cured in less than 48 hours duration. Maggots were reared in blood agar plates in selective cases.

## DISCUSSION

Myiasis is the infestation of human beings with dipterous larvae which at least for a certain period feed on the host's tissue. Zumpt (1965) classified the flies causing myiasis into 3 types: (i) organ specific, (ii) skin specific, (iii) accidentally involving human beings<sup>2</sup>.

It was a common problem in the past which is now becoming rare, mainly observed in tropical environment. Most common offenders are flies of *Chrysomya bezziana*, *Callitroga americana*, *S. haemorrhoidalis*, *Cordylobia anthropophaga*, *Cistridae cuterebra* of families<sup>3,4,5</sup> Muscidae and Sarcophagae of genera Diptera. The larvae form cyst-like pockets in the subdermal zone which communicate to the exterior through pores. Infective larvae possess integuments beset with spines. With the increase in age colour becomes blackish.

Aural myiasis has been reported mainly in children below the age of 12 years (81.47%) while in our series

79.41% and in 17.64% cases below the age of two years while others observed this in 33% cases.<sup>6</sup> The disease was observed predominantly in males while Singh et al (1993) have observed a little female predominance<sup>7</sup>. Aural myiasis has been reported mainly from May to December. In our series majority were observed in the months of August and November.

The main presenting symptom was pain in ear (97.05%) in association with blood-stained discharge (67.64%). Similar observation has been reported by others<sup>8</sup>. In our series only one patient (2.94%) complained of passing of worms as the presenting symptom while passage of maggots was the main presenting symptom in other series.

The incidence of blood stained discharge was in 67.64% cases while others observed this in 21.1% and 31% cases.<sup>7,9</sup> The incidence of suppurative otitis media was observed in 61.76% cases while others observed it in 44% cases.<sup>9</sup> Otitis externa was observed in our series in 32.35% cases similar to others<sup>8,9</sup>. Two patients were having radical mastoid cavity; no such case could be revealed in literature.

On examination blood-stained discharge and maggots were observed in all cases; perforation of tympanic membrane was observed in 72.72% case of otitis externa.

Only two cases came in follow up, one a 72 years prosperous rural farmer as a case of recurrent infestation with maggots and another for obliteration of mastoid cavity.

TABLE 2

Age and sex distribution	No of males	No of females	Total
0- 1 years	2	1	3
1- 4 years	5	6	11
4- 8 years	5	4	9
8-12 years	2	2	4
12-18 years	2	—	2
18-25 years	1	2	3
25-50 years	—	1	1
50-75 years	1	—	1
	18	16	34
%	52.9	47.05	

The maggots were reared in blood agar plates to adult flies for study and identification by standard taxonomic keys. All the flies emerged were identified to be belonging to Diptera genus; the maggots were identified as third instar larvae of Diptera having unique identifiable features.

The maggots were manually removed by picking up using forceps. The ears became maggot-free in less

than 2 days time after 5 to 14 sittings with an average of 8 sittings. Antibiotics and analgesics in association with sedatives were given. In the scalp wound dressing was done. To procure early results ear canal was gently plugged with cotton ball for ten minutes prior to every attempt of manual removal of maggots by forceps.

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