

**IVERMECTIN: A RAY OF HOPE IN AURAL MYIASIS**Abdur Rahman<sup>1</sup>, Bhavana Srivastava<sup>2</sup> and Zafar Masood Ansari<sup>2\*</sup><sup>1</sup>Department of ENT, Rohilkhand Medical College and Hospital, Bareilly, U.P., India.<sup>2</sup>Department of Pharmacology, Government Medical College, Haldwani, Nainital, Uttarakhand, India- 263139.**\*Corresponding Author: Zafar Masood Ansari**

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**ABSTRACT**

Myiasis of the ear is an infestation of the ear or ear cavities by maggots (larval stage of flies). It is a case report of myiasis in external auditory canal near tympanic membrane in a 35 years old female patient presented with pain and discharge from the ear in the out-patient department (OPD) of ENT, in a tertiary care teaching hospital of Bareilly, U.P., India. 3 dead maggots were extruded out itself from her right external auditory meatus after treatment with ivermectin. Patient was managed with ivermectin and antibiotic was given to prevent secondary infection. Literature search revealed only few cases of aural myiasis and this is probably the first case of aural myiasis affecting external auditory canal successfully treated by ivermectin drug.

**KEYWORDS:** Myiasis, external auditory canal, ivermectin.**INTRODUCTION**

In the field of otorhinolaryngology, infestation of ear or ear cavities with maggots are not a common condition but the contingency of its occurrence always exists. The term myiasis is derived from the Greek word "myia" meaning fly. It causes infestation of live human and vertebrate animals with its dipterous larvae which at least for a certain period feed on the host's dead or living tissue, liquid body substances or ingested food.<sup>[1]</sup> Aural myiasis is a rare clinical condition and occurs in persons with low socioeconomic status, immunocompromised condition or disease and sometimes in children. Poor hygienic living conditions and debilitations may also be contributing factors in the development of myiasis. Adults especially those who are mentally handicapped also prone to the development of aural myiasis or any other forms of myiasis. Ear discharge with foul smell, sometimes blood tinged, bleeding, tinnitus and pain are common symptoms found in patients of aural myiasis.<sup>[2]</sup>

**CASE REPORT**

A 35 years old female patient from a rural area of Bareilly district, presented to OPD of ENT department in a tertiary care teaching hospital of northern India. She came with chief complaint of bilateral ear discharge since childhood. She also gave history of bilateral earache, history of decreased hearing and tinnitus was also present from the past 3 years.

On examination, she was moderately built. Maggots were present in her right external auditory canal near eardrum, revealed by otoscopic examination with foul smelling discharge.

Tuning fork test showed Rinne's negative in her right ear and Weber's lateralised to the same ear. There was moderate conductive hearing loss in her right side found on Pure Tone audiometry.

Her left ear hearing was in normal range. She was not suffering from hypertension, diabetes mellitus, chronic debilitating disease or any other type of immunocompromised condition and her systemic examination was within normal limit.

Due to severity, prevalence, incidence and very high infectivity rate of COVID-19 disease, no other nonessential tests were performed or done. She had unhygienic living conditions and belonged to poor socio-economic strata.

On the first day of visit in the OPD of ENT department, after otoscopic examination and some other relevant tests mentioned above, she was diagnosed as case of right side aural myiasis due to presence of maggots in external auditory canal.

She was prescribed tablet Ivermectin, 6mg, OD for 2 days. Tablet Cefpodoxime 200mg, BD, for 5 days, Tablet Hicet-DC (Cetirizine 10mg+ Phenylephrine 10mg) BD for 5 days and capsule Pantoprazole 40 mg, before breakfast for 5 days.

She was told to visit the same OPD on 5th day. She came and told that 3 maggots were extruded itself from the right ear-canal. Then again otoscopic examination was performed and it was noticed that no maggots were

found in the auditory canal but some granulation tissues were present in the healing phase. After that ear-drop Candibiotic.

(Chloramphenicol+Clotrimazole+Beclomethasone+Lidocaine) was prescribed, 2 drops, TDS for 7 days.

## DISCUSSION

Secondary or accidental causes contribute most of the cases of human myiasis.<sup>[3]</sup> Myiasis is not uncommon parasitic infestation in the tropics and subtropics regions, and due to increasing international travel, cases are also encountered outside the endemic region in both North America and Europe.<sup>[4]</sup> Most of the identified causative agents belong to the family Sarcophagidae. Flesh flies (sarcophagidae) and blowflies (calliphoridae) cause myiasis of somewhat shorter duration, by both facultative and/or obligate parasites which mature within 4-7 days usually at the host's body cavities, orifices and in wounds.<sup>[5]</sup>

Myiasis causing larvae mainly affects cutaneous tissues or structures, body cavities or orifices and body organs.<sup>[6]</sup> Lesions with foul smelly discharge or blood or blood mixed draw attention and invigorate female flies or insects to lay eggs on them.<sup>[3]</sup> Rapid destruction of adjacent tissues, including bone, may result in the death of the host. Larvae cause tissue destruction or burrow into and destroy it by release of collagenase enzyme as well as by mechanical forces.<sup>[6]</sup>

Aural and nasal myiasis may become extremely dangerous and lethal because of the possibility of penetration and infestation the brain; in such cases, the fatality rate is approximately 8.0%.<sup>[2]</sup> Chronic inflammation of the external auditory canal, chronic otitis media or bony destruction from chronic suppuration may develop, If it is not treated appropriately.<sup>[7]</sup>

Myiasis is commonly seen in adults especially those who are mentally challenged.<sup>[3]</sup> In this case the patient is neither mentally handicapped nor child. The clinical features may vary from maggots in the ear-canal, to earache, otorrhea, tympanic membrane perforation, bleeding, itching, tinnitus, furuncle of the external ear and restlessness.<sup>[1]</sup> With the help of otoscope, we can easily detect aural myiasis.

In early infestation stage, the treatment of aural myiasis is simple which includes manual removal of maggots and cleansing the lesion or area with 70% ethanol, 10% chloroform or normal saline.<sup>[8]</sup> There was an article published on role of oral ivermectin in nasal and nasopharyngeal myiasis.<sup>[9]</sup> But this is probably the first case report of aural myiasis treated with oral ivermectin.

We used Ivermectin orally as a main drug against maggots. Tablet Ivermectin 6mg used on 2 consecutive days. On the fourth day, maggots were self expelled out ear canal as noted by patient herself. On fifth day, she

again came to visit OPD, on otoscopy was performed and no maggots were seen in ear canal. We used oral Cefpodoxime as prophylactic antibiotic to prevent secondary infection since day 1. After otoscopic examination on fifth day, we prescribe topical ear-drop consists of Chloramphenicol, Clotrimazol, Lidocaine for next 7 days to prevent further infection and to promote healing.

## Conflict of interest

Nil

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