Myiasis in the head and neck: How much do we know ?

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INTRODUCTION

Myiasis is the growth and development of fly larvae in soft tissue of animals or humans. It is usually related to agriculture and affects farmers, transportators, and veterinarians, among others. Information about myiasis in head and neck is little, We developed a literature review about myiasis comprising the last 20 years.

METHODS

We reviewed articles related to myiasis and case reports in English and Spanish in PubMed, Medline, Google Scholar and Lilacs between January 2005 to January 2025.

*** **key words:** head and neck miasis, otomiasis, nasal miasis, oral miasis, ophthalmomiasis, cervical miasis, miasis en cabeza y cuello, miasis ótica, miasis ocular.

*** **Inclusion criteria:**
- Clinical manifestations and treatment of myiasis that affects head and neck
- Patients treated because of *diptera* larvae above head and neck
- Open Access articles

*** **Exclusion criteria:** -Infections caused by geohelminths in larval stage

RESULTS

The initial search found 101 publications distributed like this:

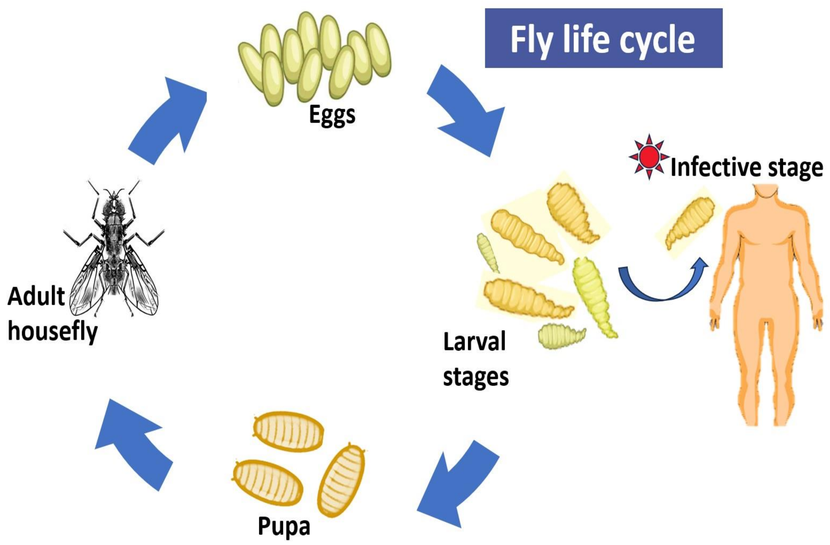
	PUBMED	LILACS	MEDLINE	SCHOLAR GOOGLE	Duplicated publications
Systematic review	1	1		1	1
Revision articles	1	3		8	3
Case series		3		4	2
Case report	29	54		22	20
Related articles			2		
Experimental report	2			1	
TOTAL	33	61	2	36	26

Out of all these publications, the following were selected due to their access, impact, and type:

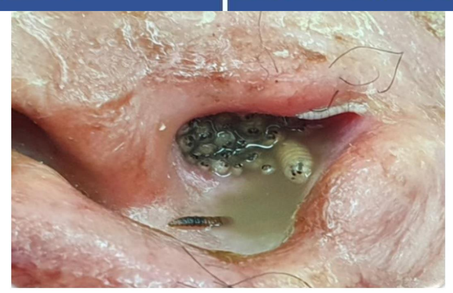
1 systematic revision,
5 revision articles,
2 case series and
1 experimental report.

Three clinical types of myiasis in head and neck were identified:
* **Cutaneous** (affects soft tissue, often forms boils and abscesses)
* **Cavitary** (such as paranasal sinuses, middle ear, and oropharyngeal cavity)
* **Wound contamination** (usually open wounds from previous lesions)

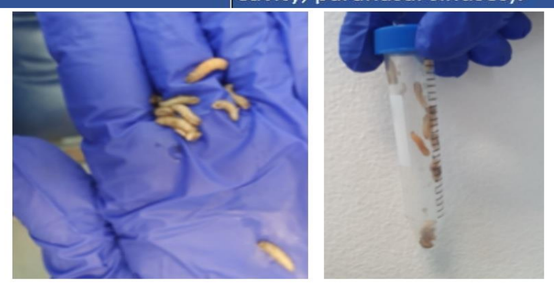
Cochliomyia hominivorax is responsible for the majority of myiasis cases in the American continent and of the most severe forms of human myiasis.



AFFECTED AREA.	INFECTING LARVAE FAMILIES OR SPECIES	REPORTED COMPLICATIONS
Oral cavity	Cochliomyia hominivorax, Chrysomia bezziana, Dermatobia hominis	Erosion of the hard palate, spread of infection to salivary glands and oropharyngeal muscles, abscesses.
Ear and mastoid cavity	Family Calliphoridae (the most frequent being Cochliomyia hominivorax) , Wohlfahrtia magnifica, y Chrysomya bezziana	Tympanic perforation, chronic otitis media, mastoiditis, chondritis, cellulitis.
Nose and paranasal sinuses	Cochliomyia hominivorax (the most frequent in the American continent), Lucilia cericata, Oestrus ovis, Drosophila melanogaster, Eristalis tenax	Abscesses, mucositis, sinusitis, epistaxis.
Eyes, ocular cavity and lacrimal structures	Oestrus ovis, Cochliomyia hominivorax	Cellulitis, conjunctivitis, abscesses in the orbital cavity
Furunculosis-like forms (soft tissue)	In the Americas: Dermatobia hominis and Cochliomyia hominivorax. In Africa: Cordylobia anthropophaga	Abscesses, cellulitis, tissue necrosis, bacterial superinfections.
Soft tissue wound infection	Stommoxys calcitrans, Chrysomia bezziana, Cordylobia anthropophaga	Abscesses, bone resorption, migration to cavities (craneal cavity, paranasal sinuses).



Larvae in external canal ear



Larvae removed from paranasal sinuses

Predisposing factors:

Diabetes, open wounds, venous stasis or pressure ulcers, frequent alcohol consumption or psychoactive substances, delayed psychomotor development, psychriatic illnesses, infected body secretions, severe dental conditions, superinfected or malign tumors, cerebrovascular diseases, poor hygienic condition, lack of clothing, senile dementia, working with livestock, malnutrition, and exposed tumors with necrotic or superinfected tissue.

TREATMENT

There are no specific management protocols for myiasis. In general, the affected areas must be cleaned, larvae must be removed, and, in some cases, surgical debridement.

Topic management includes:
- Use of substances such as hypochlorous acid or phenols like creolin
- Use of iodized soaps for wound dressing and cleaning
- Covering the opening with petrolates such as vaseline, acetic acid, and zinc oxide

Oral ivermectin is the most widely accepted antiparasitic, in a single dose or occasionally with a second application 3 weeks after the initial dose.
There is no consensus regarding the use of antibiotics.

PREVENTION

- Improve environmental hygiene (use of insecticides, proper disposal of garbage and biological waste).
- Clean surfaces with sodium hypochlorite or similar compounds regularly.
- Do not eat in beds or sleeping places.
- Fumigate periodically (i.e. permethrin)
- Use of bed nets for people with chronic conditions (cerebrovascular disease, delayed psychomotor development, nasogastric tube feeding, pressure ulcers, etc.).
- For people who have had contact with livestock: frequently clean their clothing and rubber boots.

CONCLUSION:

The prevention of myiasis is essential. Intervening in the management of the environment and the patients with risk factors for this infection. This includes early medical care for myiasis cases to avoid clinical complications and potential complications in head and neck.

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