1. INTRODUCTION

_Thelazia callipaeda_ is a parasitic nematode, that causes thelaziosis or “eyeworm disease”.

The infection distribution includes several Asian and European countries, and its spread is related to the vector distribution. Formerly: “oriental eye worm” → first dates came from Asia and Russia, in the 80s (Bhaibulya et al., 1970).

**IH/vector:** transmitted by a non-biting Diptera fly, _Phortica variegata_ (fruit fly).
They feed on conjunctival secretions of DH.

### 2. PATHOGENESIS and CLINICAL SIGNS

Clinical signs due to mechanical damage caused by the parasite, because of the spicules in his cuticle.

Most common clinical signs:
- Moderate epiphora and blepharospasm
- Mechanics irritant conjunctivitis
- Serous secretion (seromucous/mucopurulent if bact.inf.)

Keep in mind that it can also take asymptomatic form.

### 3. DIAGNOSIS

**ANAMNESIS + OCULAR EXAMINATION + RESEARCH OF PARASITES**

If nematodes are found → collection and identification:
- Morphological through microscope
- Confirmation by molecular characterization (analysis of a part of the sequence of the mitochondrial cox-1) → h1

### 4. THERAPEUTIC PROTOCOL

a) Withdraw nematodes

b) Antiparasitic treatment:

<table>
<thead>
<tr>
<th>ACTIVE INGREDIENT</th>
<th>DOSE</th>
<th>ADMINISTRATION</th>
<th>REFERENCE</th>
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<tbody>
<tr>
<td>Moxidectin 2.5% + Ivermectin 1%</td>
<td>2.5 mg/kg</td>
<td>Spot-on</td>
<td>Biancaldi and Orantes, 2005</td>
</tr>
<tr>
<td>Moxidectin 1%</td>
<td>6 mg (2 drops/eye)</td>
<td>Local instillation</td>
<td>Liao et al., 2004</td>
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<tr>
<td>Milbemycin oxime</td>
<td>0.75 mg/kg</td>
<td>Oral</td>
<td>Ferriglio et al., 2008</td>
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<tr>
<td>Milbemycin oxime + praziquantel</td>
<td>0.5 mg/kg</td>
<td>Oral</td>
<td>Motta et al., 2012</td>
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<tr>
<td>Ivermectin 1%</td>
<td>200 μg/kg</td>
<td>Subcutaneous</td>
<td>Rossi and Peruccio, 1989</td>
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<tr>
<td>Mebendazole</td>
<td>20 mg/kg</td>
<td>Oral</td>
<td>Calero-Bernal et al., 2014</td>
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### 5. PROPHYLAXIS

a) Avoid contact of the animals with IH
b) Treating infected animals
c) Preventive treatment in dogs that live in endemic areas, or that travel in them:

**ACTIVE INGREDIENT** | **DOSE** | **GUIDELINE** | **ADMINISTRATION** | **REFERENCE** | **SOURCE** |
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<tbody>
<tr>
<td>Moxidectin</td>
<td>0.17 mg/kg</td>
<td>Single dose/dose period</td>
<td>Subcutaneous (subcutaneous injection)</td>
<td>Ross et al., 2007</td>
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<tr>
<td>Ivermectin</td>
<td>0.2 mg/kg</td>
<td>Every 3 weeks</td>
<td>Oral</td>
<td>Fudge et al., 2007</td>
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<tr>
<td>Milbemycin oxime</td>
<td>0.5 mg/kg</td>
<td>Monthly</td>
<td>Oral</td>
<td>Ferriglio et al., 2008</td>
<td></td>
</tr>
<tr>
<td>Moxidectin 2.5% + Ivermectin 1%</td>
<td>2.5 mg/kg</td>
<td>Monthly</td>
<td>Spot-on</td>
<td>Loechel et al., 2015</td>
<td><a href="http://www.diptera.info">www.diptera.info</a></td>
</tr>
</tbody>
</table>

### 6. ZOONOTIC POTENTIAL

1st case of human thelaziosis → in 1917, in Beijing (China). Later, numerous cases have been detected in several parts of Asia.

In Europe, 1st cases in 2008, in Italy and France.

In Spain, one case has been detected in a teenager in Cáceres (Extremadura).

Humans → act as DH

Treatment: mechanical removal of nematodes → PREVENTION!

### 7. CONCLUSIONS

1. Emerging disease in our country
2. Consider this disease in D/D in cases with ocular signs
3. Zoontic potential, importance in public health

References:


Dorchies et al., 2007. First reports of autochthonous eyeworm infection by _T. callipaeda_ in dogs and cat from France. Veterinary Parasitology 149, 294-297.

Malacrida et al., 2008. Emergence of canine ocular thelaziosis caused by _T. callipaeda_ in southern Switzerland. Veterinary Parasitology 157, 321-327.


Ruytoro et al., 2010. Ocular Thelaziosis in Dogs, France. Emerging Infectious Diseases, Vol. 16, No. 12, 1943-1944.