Human accidental poisoning in rural and fishing occupational setting in Italy: a Poison Control Centre based 5 years case series

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Objective

• To evaluate clinical aspects and medical management of human poisoning in rural and fishing occupational setting, in order to identify preventive measures

Methods

• five years (2010-2014) retrospective study concerning the Pavia PCC data of ascertained poisoning (all over Italy) in specific settings

• Cases were evaluated for
  – circumstances of poisoning
  – clinical manifestations
  – management
  – risks factors
  – outcome
Pavia PCC case series
5 years – occupational setting toxic exposure → n= 581

Farmers → n=494 (85%)
- **pesticides/herbicides/rodenticides** n= 439
- **snakebites (vipera)** n= 22
- **insect/stings/spider bites** n= 25
- **accident in confined spaces (toxic gas)** n=8, all lethal

Farmers / Veterinarians → n=64 (11.1%)
- **accidental self-administration of drugs/vaccine/antibiotics/ sedatives** n=63
- **rabies (wound management for potential risk)** n=1 forester

Herpetologist (exotic snakes) → n=4 (0.7%)
- **Agkistrodon bilineatus**
- **Crotalus**
- **Bitis parviocula**
- **Botriechis schegeli**

Fishers/aquarists n=17 (3.2%)
- **Algal toxins**
  - **palitoxin inhalation** n=1
- **sting**
  - n. 16 cases (mean age 41)
  - 12 fishermen
  - 4 oother

Marine organism involved
Human intoxications by veterinarian drugs

Accidental inoculation of drugs during treatment of animals (turkeys, chickens, swine, cattle, ...) with automatic syringes

Voluntary professional

Professional 17.5%, n=63

Voluntary 15%, n=54

Accidental 56%, n=201

Medication errors 11.5%, n=41
### Results (agent category)

<table>
<thead>
<tr>
<th>Pharmacological class</th>
<th>N°cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pesticides</td>
<td>98</td>
</tr>
<tr>
<td>Antibiotics</td>
<td>48</td>
</tr>
<tr>
<td>Vaccines</td>
<td>47</td>
</tr>
<tr>
<td>Anesthetics/sedatives</td>
<td>36</td>
</tr>
<tr>
<td>Anthelmintics/antimycotics</td>
<td>30</td>
</tr>
<tr>
<td>Supplements/vitamins</td>
<td>16</td>
</tr>
<tr>
<td>ACE-inhibitors</td>
<td>15</td>
</tr>
<tr>
<td>Hormones</td>
<td>16</td>
</tr>
<tr>
<td>Otorhinolaryngology</td>
<td>12</td>
</tr>
<tr>
<td>Antiinflammatory</td>
<td>11</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>7</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>6</td>
</tr>
<tr>
<td>Diuretics</td>
<td>3</td>
</tr>
<tr>
<td>Immunostimulants</td>
<td>2</td>
</tr>
<tr>
<td>Urinary antiseptic</td>
<td>2</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
</tr>
</tbody>
</table>

- **More than 60%**
  - **Micotil® → 5 cases**
  - **Tanax® → 16 cases**
    - veterinarian drug for small animals euthanasia
Comments and conclusion

• Poisoning/Substances
  – accidental poisoning occur in rural and fishing occupational settings
    • farmers, veterinarians are at greater risk among evaluated settings
    • variability of toxic agents involved

• Patients
  – acute intoxication occur in rural occupational setting
  – several cases can be severe / lethal

• PCC
  – specialized advice is needed in occupational settings for the diagnosis of intoxication and to evaluate the correct indications for antidote administration (e.g. snake bites)

• Warning message
  – a preventive information program may be better developed in Italian occupational setting → training of physicians and workers is required
  – PPE are not sufficiently and correctly used (e.g. pesticide exposures)