One Health in the veterinary curriculum

by Carolina Vicario

Activity with veterinary & human medical students

One Health case: vet & med students

- Once a year
- Vet students during Infectious Disease course
- Human med students during “Doctoring” course (practicing communication and patient interview)
- 1 human med, and 1 vet med doctor present

Case example: *Toxoplasma gondii*

- Protozoal parasite
- Shed in feces
- Zoonosis
  - a disease that can be transmitted:
    - animals → humans
    - humans → other animals

Toxoplasma gondii

Definitive Hosts:

Domestic and wild felids

Intermediate Hosts:

Most all warm blooded animals (mammals & birds)

Most are assymptomatic

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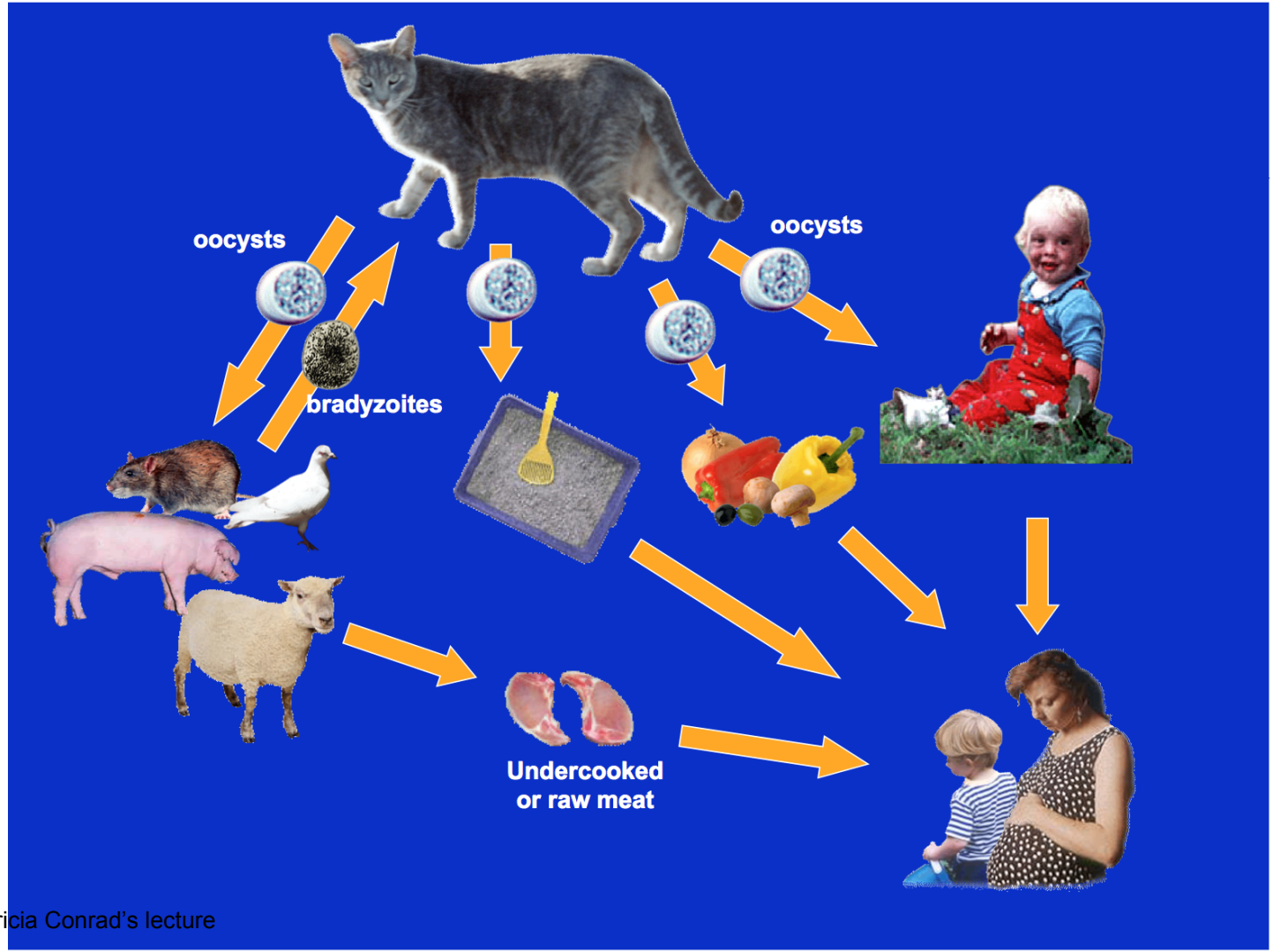
Case example: *Toxoplasma gondii*

- **Human patient (actress) presents for a pregnancy consult.**
  - She lives on farm, where she milks goats to make cheese.
  - She also lives with cats and dogs.

- Med student: investigate the patient's history and home environment
- Vet student: provide advice about diseases she may be at risk of getting from her animals.
  - Example: *Coxiella burnetii* from goats
  - Example: *Toxoplasma gondii* from cats
- Med & vet student together: Address her specific health risks and suggest protective measures. Specific to her pregnancy, and also life-long.



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Teamwork

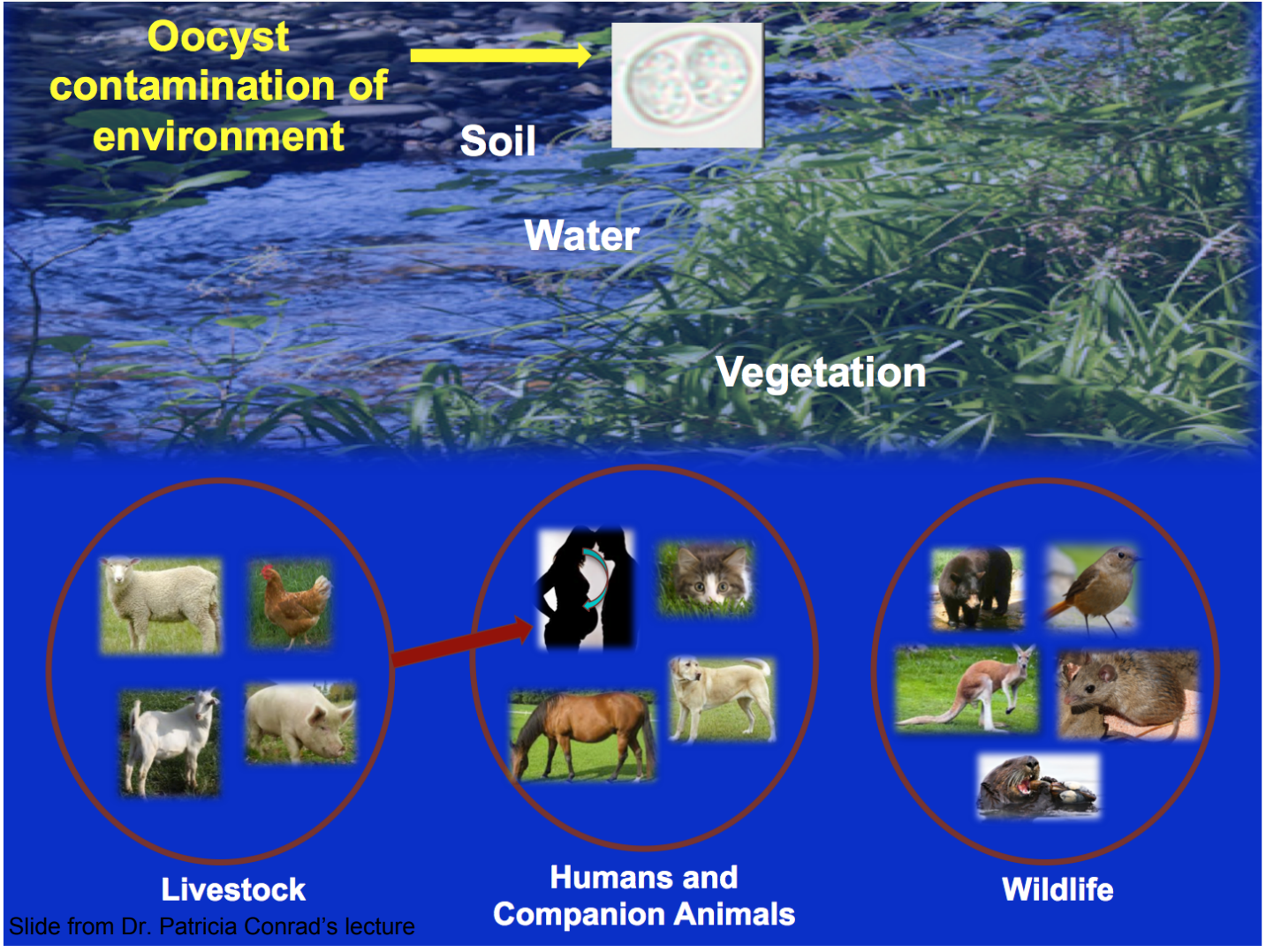
- Making health recommendations that are realistic for the patient and their lifestyle.
- *Toxoplasma* test results interpretation
  - When does a positive antibody titer mean disease and when does it just mean infection?
    - IgG shows any historical exposure
    - IgM shows acute infection
- On the computer: links to videos with advanced answers from researchers.

The goal of this activity

- **<u>Bring human & vet medicine students together.</u>**

- Use *Toxoplasma* as an example of “One Health” collaboration: human, animals, the environment.
  - Importance of human doctors consulting with veterinarians on zoonotic disease.

- Inform, without giving too much information or scaring the patient.
  - Wearing gloves, hand washing, pasteurize milk.
  - Caring for her cats, caring for her pregnant goats.



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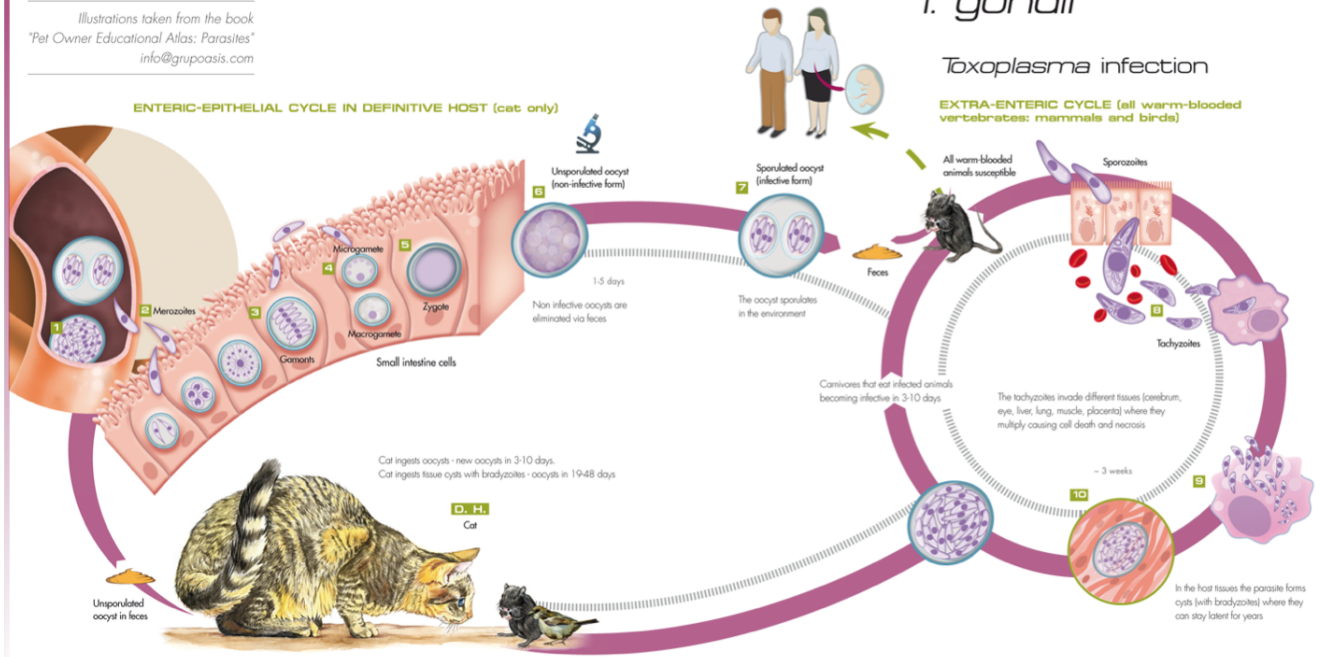
PROTOZOANS

ILLUSTRATION 8

Illustrations taken from the book "Pet Owner Educational Atlas: Parasites"
info@grupoasis.com

Toxoplasma
T. gondii



Human risk

ZOONOSIS

Humans can become infected by direct contact and by eating infected raw meat, raw vegetables or drinking contaminated water.
Transplacental infection can occur.

High risk infection:

- Seronegative pregnant women.
- People with immunosupressive illness.
- People receiving immunosupressive treatments.

Pregnant women with positive result in the serological test (presence of antibodies to *T. gondii*) are typically immune to the disease and will not transmit the infection to the foetus during pregnancy.

Animal risk

- This parasite is more pathogenic via transplacental.
- The illness may reactivate in immunosuppressed cats.

Parasite control measures

- Clean cat litter boxes daily, before oocysts become infective.
- Practice good hygiene measures (water, food, litter trays, garden).
- Serological test in patients before giving immunosuppressive treatments and in pregnant women.
- Don´t eat raw or undercooked meat (lamb, pork and chicken) when pregnant or immunosuppressed.
- Don´t feed pets raw meat.
- Don´t allow cats to hunt (indoor cats).
- Fecal exams in family pets.

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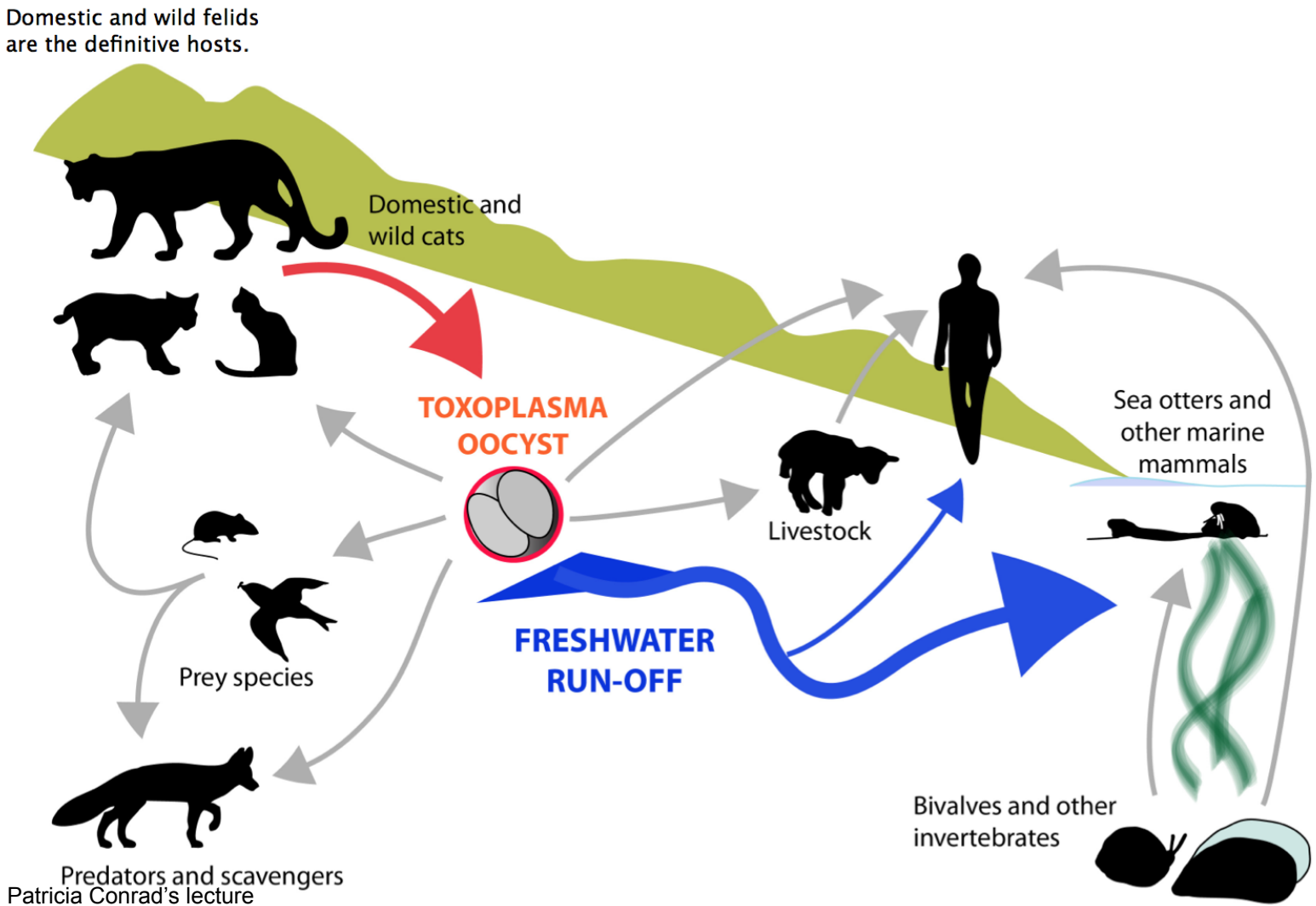

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