Epizootic Lymphangitis in Working Equines

...It’s not just about the horse

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Introduction

• Mycotic infection, dimorphic fungus *Histoplasma capsulatum var farciminosum*
• Affects mainly equids, donkeys reported as less susceptible but not immune
• Prevalent in areas of North, East, West Africa, Middle East and Far East
• More recent literature from Ethiopia – endemic
• Prevalence – 18% (0-39% range) Ameni 2006
Disease Presentation and Aetiology

- Chronic pyogranulomatous disease
- 4 forms described: cutaneous, ocular, respiratory, asymptomatic carrier (Al-Ani 1999), may be mixed
- Incubation weeks to months
- Transmission via contact with discharge, mechanical vectors, fomites, inhalation
- Lesions often occur at points of trauma – high risk of skin wounds in working equines
- Differentials: ulcerative lymphangitis, glanders, strangles, sporotrichosis
Cutaneous Form
Ocular Form

Courtesy of Keith Powell August/05
Ocular form – affecting upper eyelid and nasolacrimal duct
Importance due to:

- Impact on equine health and welfare
- Socio-economic effect
Diagnostics: aspirate from unruptured nodule

Make smear of aspirate, air dry and stain with Giemsa / PAS
Ovoid yeast bodies within macrophages and liberated
Diagnoses continued...

- Culture
- Stained histological sections
- ‘Histofarcin’ skin test
- ELISA
- Fluorescent antibody-technique
- PCR
Treatment...

- Lance all nodules, infuse with 4% tincture iodine, oral potassium iodide (30g for 200/250 kg horse)
- Repeated infusion and incision of reformed nodules (ideally daily)
- Prolonged oral KI same dose for 5 days then e.o.d. 3 or 4 weeks
- Early-moderate cases

Getachew 2004
Severe cases:
Euthanasia and carcass disposal
Potential Control options...

• Reduce risk of exposure to organism
  - Wound prevention and management
  - Exposure to infected animals direct and indirect
  - Fly repellent
  - Environmental decontamination (?)
Control options...

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- Treatment of early cases
- Vaccination...
Effect of Disease...

- Participatory Epidemiology Study – August 2007

Aims

1. explore cart-horse owners experience of disease

2. examine effects of the disease on the horse and the owner
Research Questions

- Is EZL recognised by animal owners, and is this regarded as an important disease locally?

- What factors do animal owners associate with the development of disease?

- What happens to an animal with clinical disease and how does this affect the economic value and use to the owner?

- Are measures taken to reduce disease occurrence? Extending to - what would make an intervention sustainable?
Modjo
Welisso
Wenchi
Akaki
ETHIOPIA
Outline Method...

- Cart horse owners and drivers
- Focus group semi-structured discussion facilitated by local co-researcher / translator
- Disease ranking, proportional piling, matrices and photos
- 72 groups, including 358 participants 7 SPANA clinic sites, 2 non-clinic sites
- 3-10 participants / group
- ~20 minutes / group, notes scribed and audio recording
Summary of Opinions on how a horse becomes infected with EZL

- Don't know
- **Contact with infected horses**: (may be grouped into direct and indirect)
  - Abandoned horses
  - Rubbing / mouths
  - Scratching / scratch posts
  - Common grazing
  - Harness materials
  - Whips
  - Stables
  - Rivers
- **Good body condition**
- **Poor body condition**
- From inside horse

- **Flies / insects**
  - transfer discharge
  - Bites
  - Increased fly population – linked with season
- **Season / Climate**
  - hot climate
  - dry
  - rainy
- **Hygiene**
  - not washing daily
  - soap
  - sweat (work) causing abrasions
  - not cleaning stable after infection
- **Wound**
  - Harness inflicted
  - Abrasion – sweat
  - Fly
Effect of disease on the horse

Disease progression:

- Straight line pattern along white vessels.
- Takes time to develop and depends on the type of EZL (Nidift) and severity of disease.
- Damaged skin/wounds-distribution of wounds swelling which rupture discharge ulcers pungent smell – people unwilling to use
- Irreversible cases, no option forced to reject / abandon (see next slide)
- Death due to abandonment and malnutrition
Effect of disease on the horse

Later stages of disease:

- Disturbs horse, aggressive due to pain from harness contacting lesions
- Inappetant
- Stiffness/lameness
- Loss of condition
- Weak and lethargic
- Reduces working efficiency
Does EZL (Nidift) affect your income/lifestyle?

• Loss due to:
  - reject / abandon horse
    Reasons:
    - pungent / wounded
    - Bad for village
    - People unwilling to use
    - Cannot work
    - attracts flies
  - reduced work / speed
  - replacing horse expensive

• Effect of loss:
  - Life based on day to day income
  - Dependent on cart-taxi business
  - Halves income (if owner has 2 horses)
  - Reduces consumption and living situation
References


For further information see Scantlebury and Reed ‘Epizootic Lymphangitis’ Chapter in ‘Infectious diseases of the horse’ a peer-reviewed text edited by T.S. Mair Published EVJ Ltd. 2009.
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