

Moderator: have a look at these pictures and tell me what do you think about these pictures?

Respondent: are these sources from Ethiopia?

Moderator: I don't know, [name] got the pictures. I think the pictures are from the internet but some of them are from Ethiopia.

Respondent: it looks like the EZL. Am asking you because if there is EZL in UK?

Moderator: how common is this problem in Ethiopia?

Respondent: it's very common here.

Moderator: what proportion of your case load is EZL? Is it 50% of your cases or more or less?

Respondent: the majority of the cases are the EZL which we deal with. Wound is the first and the EZL is the second most common. Overall prevalence varies from town to town but the average is like 20%. Sometime it will be 50% and above but it's the main problem.

Moderator: what do you think causes the problem?

Respondent: it's just caused by fungus: Histoplasma.

Moderator: how does this condition develop in horses what is the pathogenesis?

Respondent: we believe that wound is the main entry route for the fungus. There is also respiratory involvement. We also see the ocular form. There is also the cutaneous form. And these are the common entry route for the fungus.

Moderator: how often do you see the horses that have multiple form of the disease?

Respondent: most of the cases are the cutaneous form. And the second most common is the respiratory and the smaller number is the respiratory form.

Moderator: do you think there is a good awareness for the disease in the society? Do they bring their horses at the early stage of the disease?

Respondent: it's well known because it's a chronic disease. One affected horse can advertise to the other multiple owner because they can see the apparent signs. They know by its' name commonly. And the pattern of the disease and which body part it is affecting the lymphatic system they all know that. They are aware of the disease but the problem is they are not bringing the horse to the clinic early enough that is the problem. They keep the horse and then it can develop to the moderate level or serious level. Otherwise they recognize that it's EZL.

Moderator: why do you think they are not bringing to the clinic if they recognize it is the EZL?

Respondent: am not sure actually it varies from the owner to owner. What you can see on the horse at the first place is just small nodules. And small pus coming out until it grows. They can consider it as simple because the animal is eating, working, drinking and no more change in the work efficiency and so they don't get panic. If the condition is acute meaning if they stopped

working and feeding they will automatically run to the clinic. This will make them to give sometime. That may be the reason.

Moderator: do you think they recognize it when it's just small nodule as EZL or just something else?

Respondent: they used to wash it so they can see. The issue for us also we may not be confident at that time. To say it's the EZL. While it's just simple single nodule. We can't be sure, the owners will continually come and ask us if it's EZL or not?

Moderator: is there any kind of test that can make you confident that it is EZL?
Respondent: once it appears it rapidly goes to other body parts and can be clearly identified. It's just a matter of one week. Even the owner can identify it at this time. Simply we can take a sample. Routinely we don't do this in most cases but in a special cases. We do the giemsa stain.

Moderator: what makes it a special case? Why would you take sample from the horse?

Respondent: if we are not sure sometimes, these nodules may take longer time in that case we will do the test, to identify the EZL.

Moderator: do you think the giemsa stain will give you the accurate result?

Respondent: am not 100% sure. There might be error. We are looking for some answer. Otherwise we see the horse continuously and as I told you if it's the EZL it will make some sort of pattern.

Moderator: how do you treat this condition?

Respondent: there is a protocol for the [NGO]. We wash first and then we shave the hair and if the horse owners are in hurry it will take 30 to 40 minutes. We will shave it using the scalp. And whenever there is nodule we will incise and infuse this 4% of the tincture iodine. For some aggressive horse we will use sedatives. If we believe the incision is important and it is aggressive horse, we will use the nose twitch. It's our approach and we will use the 4% tincture iodine infusion and whenever available we will use the potassium iodide orally.

Moderator: how long is that treatment for?

Respondent: it depends some horse cure immediately, otherwise the issue is we give continuously for five days and then, every other day in average one and half month.

Moderator: do the owners do this treatment at home or they will come to the clinic?

Respondent: at home yea. They will come every week for follow up particularly when we give that potassium iodide the animal will stop eating, in that case we will discontinue the medication. Because we don't have to waste the drug. And we will advise the owner to give the drug every other day and then the owner will come every week.

Moderator: when do you stop the treatment?

Respondent: when all the wound heal and only scars there. We will stop then.

Moderator: do you see horses cured and coming back with the disease?

Respondent: yes.

Moderator: do you think it's harder to treat the horse if it recurs again. Or is it possible to treat the horse for the second time.

Respondent: Seriously I didn't follow the difference they will become sick and then we will treat them again.

Moderator: is the treatment readily available?

Respondent: tincture iodine is available. And potassium iodide is import from the UK and so it's not always available. At this season we don't have. But it's costly and not always available.

Moderator: do you know how much it cost to treat one horse?

Respondent: it will cost around 2000 birr for one horse.

Moderator: [NGO] pays that cost and the owners will not pay for that cost?

Respondent: the owners can't afford that. And so the [NGO] is doing that. Even to get this iodine tincture they will pay for 50 birr. That is a lot for them and when you add the potassium iodide on that it will be costly. 2000 birr is nearly one third of the horses cost. On average.

Moderator: when the potassium iodide is available in the pharmacy can they purchase that from the pharmacy?

Respondent: it's not available in the market. We get by donation from the UK.

Moderator: can they get the iodine tincture from pharmacy?

Respondent: yes they can get that. They can prepare it. The only thing is the cost if the owner can afford that? If the owner is willing to pay that for two month or three month. They can get.

Moderator: is the treatment effective?

Respondent: am not happy. You have to keep treating all the time, convincing the owner to bring the horse regularly is the other challenge. Drop out is very serious. So for me the treatment at this time for the epizootic lymphangitis is not efficient. In terms of time, the length of the duration of time we are doing for the single horse it's not efficient. I hope this research will bring vaccine. Every time I found researchers coming from abroad I will ask them to do something. For me if it's possible vaccination is the best.

Moderator: do you know on any concern that the owner have regarding dropping out of the treatment? Is there any compliant from the horse regarding the duration of the treatment? Or any fear of washing the horse all this time of the treatment?

Respondent: I don't think they feel that way they will live with the horse feeding and washing them. We have read the issue of the zoonotic importance and for that sake we will tell them to wash by putting on the glove. When we they are in our clinic for that sake we will give them the

glove. Still it's not 100% safe we are touching contaminated materials all the time. But we are not getting the disease. I don't think they are in fear of getting the disease. That couldn't be the reason.

Moderator: you have mentioned the availability. Is there any other thing that may influence the decision of treating the horse? Such as advertising from the drug companies. Or are you concerned about potential resistance?

Respondent: when the condition is severe, involvement of the respiratory system that is the case I don't advise for the treatment. The recovery is not good and I advise for the Euthanasia.

Moderator: do you find the horse owner are happy to euthanize?

Respondent: they are not happy. There are some owners which are aware of the problem. Whenever we go the chance we have program in teaching about the EZL, awaking them that the presence of seriously sick horse will distribute the disease to the other horses. Those people who have good awareness about the EZL, will bring them here for Euthanasia. But most of the time they don't allow the Euthanasia. We will give them phone number if they decide they will call us to euthanize. When the horse is being abandoned and are left on the street, if there is no anyone following them we will talk with the city municipality and we will euthanize the horse. Most of the people don't allow the euthanasia.

Moderator: do you know why they don't allow?

Respondent: they have a hope for recovery. They will say that if the animal is dying let it die by itself. Some of them have some religious issue. Sometimes people say it's a sin to kill live animal that is actually few in number but the majority of the case they have hope that the animal will recover. They will not follow the animal they don't give feed. They will wait for the recovery of the horse.

Moderator: so they will keep an eye on the horse for the recovery to see if it gets better.

Respondent: if it recover they will take it back. So there is the probability of recovery. One may happen from hundreds of the horses so it will be kind of advertise.

Moderator: do you know if there is a traditional treatment at home for these horses?

Respondent: the traditional treatment, I know branding is common. I don't know if that is traditional practice. It's the common practice in the community. There are some injectable for the horses.

Moderator: do you know those injectable sources?

Respondent: it's prepared from plants. They will locally prepare. I know one person from our site, I couldn't approach him. It's well known and had a fame. They will tell us when they will come to the clinic, it will burst out the wound they will consider the disease is coming out because of the injection. But it's perception. I don't like the treatment. Others may work. It needs investigation. What you hear from the owner is the horse is getting pain and rolling. That will show you that the animal is suffering from the treatment. In this year we have tried to make some

sort of investigation, catch some medicinal plant and it's not available I was talking to one of the traditional therapist and they are not willing to expose their knowledge you know because of different reason other wise we want to know how these things are working. One of our student attached to this EZL project at the beginning. They were thinking to go for the traditional treatment but it can't succeed. Generally speaking there are traditional healers treating horses for the EZL.

Moderator: look at these pictures and do you know them before?

Respondent: am not sure about this one but there is the fungal infection on the head.

Moderator: so that is the "G"?

Respondent: yea. It's common. It will cause the alopecia.

Moderator: you haven't seen the other ones?

Respondent: no

Moderator: what would you do if someone had this?

Respondent: I will tell them to advise the medical doctors.

Moderator: do you know if the treatment for this people are effective?

Respondent: because I didn't see it in my family or elsewhere, I don't know the efficiency of the treatment. Generally fungal diseases are not easy to treat it.

Moderator: there are number of antifungals used in human and do you know why they are not used in animal treatments? Is it a cost thing or other? Or there is no research done?

Respondent: one thing is the dose issue, it will not be prescribed for the animals you know. Most of the drugs are used only used for the horses and the donkeys.

Moderator: can you prescribe for the animal owners at the human pharmacy?

Respondent: yes we do. There is no problem, I don't know the legislation when there are no some drugs in our stock we may prescribe to the human pharmacy.

Moderator: do you know if people can buy drugs from human or animal pharmacy without prescription?

Respondent: am not sure. But in case of the animal it is loose. I assume they may sell it without prescription. It is relatively stronger for the human case. Because of the human issue and the like. There are common drugs like the anthelmintic without prescription for our case and also for the humans. Getting anthelmintic is not a problem but for some other serious case that can't be done without prescription that will be strict. Pain killers are there without prescription. The farmers can buy the anthelmintic without prescription. And also antibiotics but am not sure.

Moderator: if pain killer are sold without prescription, do you know if some owners are giving it to their owners, since the EZL is painful to the animal when they are washing their body?

Respondent: they don't.

Moderator: you have already recommended the vaccination for the EZL, is there any other thing you want to recommend for the antifungal medication or the fungal disease as a whole?

Respondent: as you said my first recommendation which can't be replaced by the other is the vaccination if it's possible. Some effort in developing the vaccine. And the research which now the [NGO] and the [University] are working together. Because as you see animal suffer from the EZL. Again I apply very painful medication on the horse, and they will get very sad. Roaming around without food and water. We can't access them as you know. Rarely for Euthanasia. What I want to say is this disease is very painful for the horses. It doesn't matter if it would kill the horse within four or three days you know, but it takes very long time like six month that is painful. Research can give input option for prevention and control so research should be encouraged.