



WOODLAND PARK ZOO

## **Medical Records on Chai**

**5/8/08 through 8/5/08**

**Including Smithsonian National Lab from**

**4/27/08 through 8/5/08**

**48 pages**

Clinical Pathology Records - Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

=====
ELEPHAS MAXIMUS (no subsp)
Asiatic elephant
Name: CHAI
=====

Sex: Female Acc. #: 21113
Age: 29Y 6M Est. Birth: 28.Jan.1979
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Collection Information >>

Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 3878 Kg on 13.Apr.2008
Manual restraint used.

Date of Collection: 24.Apr.2008
Time of Collection: 8:30.1
Collected by: RR
Sample Collection Site: EAR VEIN

Hematology >>

Analysis Information >>

Anticoagulant: EDTA
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: NATIONAL ZOO
Date of Analysis: 24.Apr.2008
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

ISIS Reference Values >>
Mean S.D. Min. Max. (N)

EEHV-DX (PCR) NEG

Comments >>

From the EEHV lab: these results are from many different primers, and reflect the sequencing results (so we may have reported by email/phone that a sample had a band from a primer, but if sequence came back that ruled out EEHV, the sample is marked as (-)).

Chemistry >>

Analysis Information >>

Chemistry Sample: Serum
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: NZP
Date of Analysis: 24.Apr.2008
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

ISIS Reference Values >>
Mean S.D. Min. Max. (N)

EEHV-DX (PCR) NEG

Comments >>

From the EEHV lab: these results are from many different primers, and reflect the sequencing results (so we may have reported by email/phone that a sample had a band from a primer, but if sequence came back that ruled out EEHV, the sample is marked as (-)).

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female                      Acc. #: 21113  
Age: 29Y 6M Est.              Birth: 28.Jan.1979

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.....2008....

29.Apr.2008

Problem: abscess - right front foot (Confirmed); RADIOGRAPH, CONTRAST -  
right front foot; RADIOGRAPH, SURVEY - right front foot

The following samples were shipped today to EEHV Lab for testing:  
serum from 28 April 2008, serum and edta whole blood from 24 April  
2008 (TLH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)           Sex: Female           Acc. #: 21113
Asiatic elephant                     Age: 29Y 6M Est.     Birth: 28.Jan.1979
Name: CHAI
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.....2008....

29.Apr.2008

Problem: abscess - right front foot (Confirmed); RADIOGRAPH, CONTRAST - right front foot; RADIOGRAPH, SURVEY - right front foot  
Radiographs to evaluate draining tract RF foot. Lesion is actually between D4 and D5, not D3 and D4 as previously noted in records.

Radiographs/survey and fistulogram: Positioning was not ideal and not all skeletal structures were highlighted. Patient compliance, while good for the radiographs, was not continued through the fistulogram and insufficient contrast material was present for diagnostic purposes. Last set of baseline films were used for comparison and no overt signs of osteomyelitis observed today, but survey films will need to be repeated.

Oral acceptance of antibiotics remain poor but there is a decline in WBC. Compounding pharmacy has been contacted and a rectal amoxicillin suppository can be prepared. This would be a new administration route for amoxicillin. Bank serum for future levels?

For the DKR:

Survey and contrast radiographs of the RF foot were attempted today with partial results. While no overt signs of osteomyelitis are present, survey radiographs should be repeated. Due to poor oral acceptance of antibiotics, a rectal suppository will be prepared by our compounding pharmacy for antibiotic administration. (KEH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)	Sex: Female	Acc. #: 21113
Asiatic elephant	Age: 29Y 6M Est.	Birth: 28.Jan.1979
Name: CHAI		

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.....2008....

30.Apr.2008

Problem: abscess - right front foot (Confirmed)  
EEHV lab tested 24Apr08 samples (neg) and banked 28Apr08 samples.  
(KEH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)           Sex: Female           Acc. #: 21113
Asiatic elephant                     Age: 29Y 6M Est.     Birth: 28.Jan.1979
Name: CHAI
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.....2008...

3.May.2008

Problem: abscess - right front foot (Confirmed)  
EEHV testing update. EEHV titer negative on PCR. Clinically normal elephant. Sample is from blood obtained 24Apr08.

03May. This elephant remains clinically normal with no abnormalities on bloodwork. To date, no evidence of EEHV in this patient. Continue to submit EEHV samples for PCR on all 3 elephants to see obtain more data to assist with interpretation.

Current treatment/diagnostic plan:

1. CBC/panel/fibrinogen every other day x 10 days
2. EEHV serum/EDTA every other day x 10 days
3. Fecal bacterial culture SID x 5 days
4. Fecal EM and VI SID x 5 days

Treatment/diagnostic plan may be changed as needed to reflect clinical changes and results of diagnostic tests.

Rx: AMOXICILLIN TRIHYDRATE 50 gm rectally BID for 21 days. (KEH)



Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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Asiatic elephant	Age: 29Y 6M Est.	Birth: 28.Jan.1979
Name: CHAI		

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.....2008...

5.May.2008

Problem: abscess - right front foot (Confirmed)

The following samples were shipped today to EEHV Lab for testing:  
serum and edta whole blood from 3 May 2008 (TLH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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<i>ELEPHAS MAXIMUS</i> (no subsp)	Sex: Female	Acc. #: 21113
Asiatic elephant	Age: 29Y 6M Est.	Birth: 28.Jan.1979
Name: CHAI		

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.....2008...

7.May.2008

Problem: abscess - right front foot (Confirmed)

The following samples were shipped today to EEHV Lab for testing:  
serum and edta whole blood from 5 May and 7 May 2008 (TLH)

Clinical Pathology Records - Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)           Sex: Female           Acc. #: 21113
Asiatic elephant                     Age: 29Y 6M Est.     Birth: 28.Jan.1979
Name: CHAI
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Collection Information >>
Health Status: Normal
Fasting Time: < 8 hours
Activity: Calm
Weight: 3878 Kg on 13.Apr.2008
Manual restraint used.

Date of Collection: 7.May.2008
Time of Collection: 9:30.1
Collected by: PM
Sample Collection Site: EAR VEIN

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Hematology >>
Analysis Information >>
Anticoagulant: EDTA
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: NATIONAL ZOO
Date of Analysis: 7.May.2008
Time of Analysis:
Analysis by:
Automated analysis.

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Tests and Results >>
EEHV-DX (PCR)           NEG

ISIS Reference Values >>
Mean  S.D.  Min.  Max.  (N)

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Comments >>
From the EEHV lab: these results are from many different primers, and
reflect the sequencing results (so we may have reported by email/phone
that a sample had a band from a primer, but if sequence came back that
ruled out
EEHV, the sample is marked as (-)).

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Chemistry >>
Analysis Information >>
Chemistry Sample: Serum
Storage: Fresh
Sample Quality: No quality problems.

Laboratory: NATIONAL ZOO
Date of Analysis: 7.May.2008
Time of Analysis:
Analysis by:
Automated analysis.

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Tests and Results >>
EEHV-DX (PCR)           NEG

ISIS Reference Values >>
Mean  S.D.  Min.  Max.  (N)

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```

Comments >>
From the EEHV lab: these results are from many different primers, and
reflect the sequencing results (so we may have reported by email/phone
that a sample had a band from a primer, but if sequence came back that
ruled out
EEHV, the sample is marked as (-)).

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Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

=====

*ELEPHAS MAXIMUS* (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female                      Acc. #: 21113  
Age: 29Y 6M Est.              Birth: 28.Jan.1979

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.....2008....

8.May.2008

Problem: abscess - right front foot (Confirmed)  
EEHV results for samples obtained 03May08 (neg), 05May08 (banked), and  
07May08 (neg). (KEH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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<i>ELEPHAS MAXIMUS</i> (no subsp)	Sex: Female	Acc. #: 21113
Asiatic elephant	Age: 29Y 6M Est.	Birth: 28.Jan.1979
Name: CHAI		

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.....2008...

11.May.2008

Problem: abscess - right front foot (Confirmed)  
From the EEHV Lab: Results negative all elephants.

"The sequencing results came back yesterday (Saturday), and there was nothing readable from any of the elephants." (KEH)

Clinical Pathology Records - Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female                      Acc. #: 21113  
Age: 29Y 6M Est.              Birth: 28.Jan.1979

=====

Collection Information >>  
Health Status: Normal  
Fasting Time: < 8 hours  
Activity: Calm  
Weight: 3878 Kg on 13.Apr.2008  
Manual restraint used.

Date of Collection: 11.May.2008  
Time of Collection: : 0.1  
Collected by: PM  
Sample Collection Site: EAR VEIN

Hematology >>  
Analysis Information >>  
Anticoagulant: EDTA  
Storage: Fresh  
Sample Quality: No quality problems.

Laboratory: NATIONAL ZOO  
Date of Analysis: 11.May.2008  
Time of Analysis:  
Analysis by:  
Automated analysis.

Tests and Results >>

ISIS Reference Values >>  
Mean    S.D.    Min.    Max.    (N)

EEHV-DX(PCR)                      NEG

Comments >>

From the EEHV lab: these results are from many different primers, and reflect the sequencing results (so we may have reported by email/phone that a sample had a band from a primer, but if sequence came back that ruled out EEHV, the sample is marked as (-)).

Chemistry >>

Analysis Information >>  
Chemistry Sample: Serum  
Storage: Fresh  
Sample Quality: No quality problems.

Laboratory: NATIONAL ZOO  
Date of Analysis: 11.May.2008  
Time of Analysis:  
Analysis by:  
Automated analysis.

Tests and Results >>

ISIS Reference Values >>  
Mean    S.D.    Min.    Max.    (N)

EEHV-DX(PCR)                      NEG

Comments >>

From the EEHV lab: these results are from many different primers, and reflect the sequencing results (so we may have reported by email/phone that a sample had a band from a primer, but if sequence came back that ruled out EEHV, the sample is marked as (-)).

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

=====

ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female  
Age: 29Y 6M Est.

Acc. #: 21113  
Birth: 28.Jan.1979

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.....2008...

12.May.2008

Problem: abscess - right front foot (Confirmed)

The following samples were shipped to EEHV Lab for EEHV analysis:

09 May 2008 serum and edta whole blood

11 May 2008 serum and edta whole blood. (TLH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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<i>ELEPHAS MAXIMUS</i> (no subsp)	Sex: Female	Acc. #: 21113
Asiatic elephant	Age: 29Y 6M Est.	Birth: 28.Jan.1979
Name: CHAI		

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.....2008...

13.May.2008

Problem: abscess - right front foot (Confirmed)

Will not run 05/09 and 05/11 EEHV samples due to all previous submissions negative and no clinical symptoms of concern. Lab to bank. (KEH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female  
Age: 29Y 6M Est.

Acc. #: 21113  
Birth: 28.Jan.1979

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.....2008....

14.May.2008

Problem: abscess - right front foot (Confirmed); EXAMINATION, RECHECK  
Recheck examination of RF foot- No lameness in RF foot; mild  
non-painful soft tissue swelling above the draining tract between  
digits 4/5 remains; moderate amount of proliferative granulation  
tissue between digits 4/5 present and is mildly sensitive. Draining  
tract still open with a small amount of exudate flushed out.  
P: continue current twice daily treatment plan  
careful trimming around draining tract to gradually open  
recheck in one week (JEO)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female  
Age: 29Y 6M Est.      Birth: 28.Jan.1979  
Acc. #: 21113

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.....2008....

22.May.2008

Problem: abscess - right front foot (Confirmed); EXAMINATION, RECHECK  
Recheck examination of RF foot- completion of three week amoxicillin  
treatment per rectal suppository will be tomorrow morning.  
No lameness in RF foot; mild non-painful soft tissue swelling above  
the draining tract between digits 4/5 remains; proliferative  
granulation tissue between digits 4/5 still present but seems less  
sensitive and becoming less viable allowing trimming some of it away.  
Draining tract is smaller now requiring a smaller diameter tube (5Fr)  
to cannulate and flush- no exudate from the tract itself. Small amount  
of exudate and necrotic tissue in the crevice between each side of the  
proliferative granulation tissue and the adjacent skin/nail.  
Cleansed out crevice with saline and dilute nolsan soaked gauze which  
also aides in mild debridement. Trimmed open the dorsal and ventral  
aspects of the draining tract a little more. Tract flushed with  
sterile saline, then diute nolvasan, then infused chlorine dioxide gel  
disinfectant  
P: will contine with the above treatment plan  
Rx: NOLVASAN (DILUTED 1 OZ/GALLON) topically BID for 14 days.  
Rx: CHLORINE DIOXIDE 2 ml topically BID for 14 days.

for DKR: the interdigital (4/5) draining tract on the RF foot  
continues its slow gradual improvement. The tract lumen is smaller  
requiring use of a smaller red rubber tube to flush the tract. The  
twice daily treatment is as follows:

- 1) soak RF foot in warm epsom salt bath for 10 minutes
- 2) cleanse area between RF digits 4/5 with dilute nolvasan soaked  
gauze, pulling the gauze through the narrow crevices.
- 3) flush the draining tract first with sterile saline followed  
by the dilute nolvasan
- 4) infuse the Chlorine Dioxide (White Lightening Gel) into the  
draining tract.

Discontinue the cloxacillin infusion.

The final amoxicillin rectal suppository dose is tomorrow morning and  
will not be extended at this time. Schedule a recheck in 1 week.

(JEO)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female  
Age: 29Y 6M Est.      Birth: 28.Jan.1979

Acc. #: 21113

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.....2008...

26.May.2008

Problem: abscess - right front foot (Confirmed); EXAMINATION, RECHECK

Recheck exam for RF foot draining tract.

Exam, recheck: There is some swelling noted between D4 and D5, able to express a small amount of thick white-yellow material from the granulation tissue present between these digits in a region similar to previous tract openings. The tract was gently opened with hemostats and KPR staff flushed with copious sterile saline; only a small amount of material obtained. Slight tenderness on heavy digital palpation that is well tolerated by the patient. Soft, brown necrotic material easily removed from around granulation bed.

For the DKR:

Continue to push on space between digits 4 and 5 to evaluate for exudate accumulation and open/flush these connections as identified with sterile saline and/or chlorhexidine flush. Continue foot soaks. Will re-evaluate treatment options with full staff tomorrow. (KEH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female                      Acc. #: 21113  
Age: 29Y 6M Est.              Birth: 28.Jan.1979

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.....2008....

27.May.2008

Problem: abscess - right front foot (Confirmed)

Dr. Helmick examined the draining tract in Chai's right front foot this a.m. She suggested trying to open it up more so it can drain better. She also said to discontinue the "White Lightning" chlorine gel use in the opening and use it only on the external foot.--maluy (DKR)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)	Sex: Female	Acc. #: 21113
Asiatic elephant	Age: 29Y 6M Est.	Birth: 28.Jan.1979
Name: CHAI		

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.....2008...

30.May.2008

Problem: abscess - right front foot (Confirmed)  
Trimmed away more of the soft tissue surrounding the draining tract on Chai's right front foot, between #4 and 5 toes. Small amount of blood drained from the area after trimming. Performed normal treatment afterward.--maluy (DKR)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female  
Age: 29Y 6M Est. Birth: 28.Jan.1979  
Acc. #: 21113

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.....2008....

3.Jun.2008

Problem: abscess - right front foot (Confirmed); EXAMINATION, RECHECK

Recheck exam for RF foot draining tract.

Exam, recheck: There swelling between D4 and D5 is reduced, only a very small amount of thick white-yellow material can be expressed from the tract opening up between these digits. KPR staff were able to pare some of the tougher tissue around the tract and increased the size of the opening. Minimal discomfort, healthy tissue that bleeds slightly around tract. Interdigital space palpates slightly firm on the medial (D4) side. The interdigital granulation bed remains focal and very round in size; appears to becoming more like proud flesh.

For the DKR:

Continue to pare back around the tract opening to remove tissue that may block this opening, and to open up the tract a little more. Continue to clean material from around the granulation bed and flush draining tract. Granulation bed is taking the appearance of "proud flesh"; overabundant tissue. Topical treatments will be prescribed to help with this. Continue weekly vet rechecks.  
Rx: WONDER DUST topically SID for 14 days. (KEH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

=====

ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

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Sex: Female                      Acc. #: 21113  
Age: 29Y 6M Est.              Birth: 28.Jan.1979

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.....2008...

8.Jun.2008

Problem: abscess - right front foot (Confirmed); biopsy ; EXAMINATION,  
RECHECK

After her foot treatment today, Chai was presenting her foot for her bath, and she knocked the fistula on her right foot on the door. She knocked about 1/3 of the fistula off. It was trimmed up and rinsed, and then treated with Wonder dust. Dr. Kelly came down to take a look at it and recommended we apply white lightening to it this afternoon. She will follow up with a visit on Tuesday morning. KUO. --bojarski (DKR)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female  
Age: 29Y 6M Est.      Birth: 28.Jan.1979

Acc. #: 21113

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.....2008....

8.Jun.2008

Problem: abscess - right front foot (Confirmed); biopsy ; EXAMINATION,  
RECHECK

Exam to evaluate exuberant granulation tissue, RF foot.

History: Draining tract between RF D4 and D5 under care with positive progression, exuberant granulation tissue developing interdigital space being treated topically with equine products designed to reduce this tissue, a piece of this tissue fell off today.

Exam, recheck: An approximately 2.5x1.0 cm piece of granulation tissue dislodged from between RF D4-D5 from within the central portion of exuberant granulation tissue. Dislodged tissue appears as normal granulation tissue with no tract, exudate, or necrotic material present. Tissue around foot lesion remains pink and healthy with some mild bleeding. Exposed is firm cuticular-like tissue along the medial aspect of the interdigital lesion that can now be trimmed back during daily foot care. No further draining tract exposed. Foot to be cleaned again tonight and topical treatments applied.

Biopsy/granulation tissue - dislodged piece in formalin to NWZooPath for histology.

Updated Treatment Plan:

1. Once daily foot treatment.
2. Rinse debris from foot and soak in Epson salts.
4. Pare away distal draining tract as appropriate.
5. Flush tract with sterile saline.
6. Clean outside tissue with chlorhexidine.
7. Apply topical treatments.

For the DKR:

A piece of the exuberant granulation tissue present between RF D4 and D5 was dislodged today. All remaining tissue appears healthy. No necrotic tracts or material found within dislodged piece. Dislodged material submitted for routine histology exam. (KEH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)	Sex: Female	Acc. #: 21113
Asiatic elephant	Age: 29Y 6M Est.	Birth: 28.Jan.1979
Name: CHAI		

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.....2008...

10.Jun.2008

Problem: abscess - right front foot (Confirmed); EXAMINATION, RECHECK  
Recheck exam for RF foot.

Exam, recheck: Tissues remain healthy, normal but exuberant  
granulation tissue, small amount of purulent material continues to be  
expressed from draining tract, keepers making good progress in paring  
back tract.

For the DKR:

Recheck exam for RF foot tract shows slow but forward progress.  
Please collect a swab for recheck bacterial culture of the draining  
tract. Continue weekly vet checks. (KEH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

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Sex: Female  
Age: 29Y 6M Est.

Acc. #: 21113  
Birth: 28.Jan.1979

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.....2008....

11.Jun.2008

Problem: abscess - right front foot (Confirmed)

Trimmed some more tissue (cuticle) from the area surrounding the remaining "exuberant" tissue and fistula on the right front foot. Obtained a culture of the expressed exudate for C/S and submitted sample to vet techs this a.m.

Obtained radiographs of Chai's front feet as part of the updating of baseline radiographs for AHD. Chai was very cooperative for taking the films and the technique was good as well according to vet technicians.--maluy (DKR)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

=====

Sex: Female                      Acc. #: 21113  
Age: 29Y 6M Est.                Birth: 28.Jan.1979

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.....2008...

13.Jun.2008

Problem: abscess - right front foot (Confirmed)

Trimmed some more of the exuberant tissue from the fistula on the right front foot. Observed little to no exudate from the draining tract. The application of the Wonder Dust appears to be helping to dry the tissue so we can more readily trim it off during treatment. Will continue to kuo.--maluy (DKR)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

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Sex: Female                      Acc. #: 21113  
Age: 29Y 6M Est.                Birth: 28 Jan. 1979

=====

.....2008...

13.Jun.2008

Problem: abscess - right front foot (Confirmed)  
Northwest ZooPath

654 W. Main St. · Monroe, WA 98272 ·  
Phone (360) 794-0630 · Fax (360) 794-4312 · E-mail: zoopath@aol.com

Case No.:                      G08-2956  
Tissues obtained:    06/08/08

Received:                    06/10, reported 06/13/08

Drs. Kelly Helmick & John Ochsenreiter  
Patient ID:                  Asian Elephant #21113

Woodland Park Zoo  
Account #:                  WA 360G, NM, ATT

Animal Health Department  
Telephone:                  (206)                  548-2500x1603

601 N. 59th St.  
FAX #:    547-6962

Seattle, WA                  98103-5858  
E-mail:    (on file)

HISTORY: This 29-year-old female elephant has a draining tract between the right front D4 and D5 associated with progressive formation of exuberant granulation tissue. An approximately 2.5 cm. piece of the granulation tissue became dislodged and is submitted.

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)           Sex: Female           Acc. #: 21113
Asiatic elephant                     Age: 29Y 6M Est.     Birth: 28.Jan.1979
Name: CHAI
=====

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13.Jun.2008

Problem: abscess - right front foot (Confirmed)

CLINICAL DIAGNOSIS: Foot abscess.

GROSS: Received in formalin is one tissue to 2.5 cm. in greatest dimension that is processed in one block.

MICROSCOPIC: These sections of skin have marked epidermal hyperplasia, intracellular edema in the superficial aspects, serocellular crust formation with bacterial colonization, and some foci of superficial and deep pustule formation. The rete pegs have dysplastic change in a few areas characterized by increased nuclear size, multiple nucleoli, and some asynchronous maturation to keratinocytes. Dysplastic foci are delineated by a basement membrane. The dermis in one section has marked thrombosis with associated suppurative inflammation, bacterial colonization, and an interface vesicle. Implanted foreign material is present along some of the external surfaces admixed with the crusts.

DIAGNOSIS: Marked proliferative crusting pododermatitis with thrombosis, deep bacterial infection, and epidermal dysplasia.

COMMENT: As suspected clinically, histologic changes are consistent with bacterial infection. The epidermal proliferation is prominent in this case, perhaps more so than is typically seen for foot abscesses in elephants. There is also some mild dysplastic change in a few areas. This is likely reactive and associated with the bacterial infection but could possibly be preneoplastic. If this condition is not responding to a typical fashion to supportive care, it may be necessary to obtain some additional biopsies of the epidermis and underlying dermis in the region to further characterize the lesion.

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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Asiatic elephant	Age: 29Y 6M Est.	Birth: 28.Jan.1979
Name: CHAI		

=====

13.Jun.2008

Problem: abscess - right front foot (Confirmed)

Michael M. Garner, DVM, Dipl. ACVP

MMG/hc

E-mail: Zoopath@aol.com

NZP Code: M, 9a; bacterial pododermatitis with dysplasia. (MMG)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female                      Acc. #: 21113  
Age: 29Y 6M Est.              Birth: 28.Jan.1979

=====

.....2008....

14.Jun.2008

Problem: abscess - right front foot (Confirmed)

Trimmed away some more "proud" tissue from the fistual on the right front foot. Small amount of bleeding noted afterward. Will KUO.

Observed several lumps on Chai's abdomen and one on her trunk. Will KUO.--maluy (DKR)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)	Sex: Female	Acc. #: 21113
Asiatic elephant	Age: 29Y 6M Est.	Birth: 28.Jan.1979
Name: CHAI		

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.....2008...

22.Jun.2008

Problem: abscess - right front foot (Confirmed)  
As per Dr. Kelly regarding Wonder Dust treatment for Chai: Please  
continue the wonder dust through her next recheck appointment and will  
discuss then. --bojarski (DKR)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)           Sex: Female           Acc. #: 21113
Asiatic elephant                     Age: 29Y 6M Est.     Birth: 28.Jan.1979
Name: CHAI
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.....2008...

24.Jun.2008

Problem: abscess - right front foot (Confirmed); EXAMINATION, RECHECK  
 Recheck exam for RF foot.  
 Exam, recheck: The draining tract appears to be filling in with some  
 increased swelling in the dorsal pocket. The exuberant granulation  
 tissue continues to fill in. No purulent material is expressed.  
 Medial and lateral sides of the granulation material is well-trimmed  
 through daily care, but soft tissue and vascularization limit dorsal  
 and ventral trimming. KPR staff continue to make good progress in  
 daily treatments.

For the DKR:  
 The previous draining tract is filling in but there is still swelling  
 noted with the pocket. Exuberant granulation tissue continues to  
 develop. Daily treatment continues to make good progress to keep  
 granulation tissue under control. Continue all current treatments and  
 weekly vet checks. Continue to work to open up the draining tract.  
 (KEH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)           Sex: Female           Acc. #: 21113
Asiatic elephant                     Age: 29Y 6M Est.     Birth: 28.Jan.1979
Name: CHAI
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.....2008....

1.Jul.2008

Problem: abscess - right front foot (Confirmed); ALLERGIC RESPONSE - skin  
(Suspected); EXAMINATION, RECHECK  
Recheck exam for RF foot.

Exam, recheck: The draining tract is not longer apparent and appears filled in with decreased swelling in the dorsal pocket. The exuberant granulation tissue continues to fill in. No purulent material is expressed. Medial and lateral sides of the granulation material is well-trimmed through daily care, but soft tissue and vascularization appear increased. KPR staff continue to make good progress in daily treatments. KPR reports of ventral "bumps" (presumptive urticaria) are improved and resolved to several small, firm nonpainful bumps and mild edema of the ventrum.

For the DKR:

The previous draining tract is filling with some decreased swelling. Exuberant granulation tissue continues to develop. Daily treatment continues to make good progress to keep granulation tissue under control. Continue all current treatments and weekly vet checks. Ventral "bumps" are consistent with previous observations in collection elephants and suggest a contact allergen. Bumps are currently resolving. (KEH).

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female  
Age: 29Y 6M Est.

Acc. #: 21113  
Birth: 28.Jan.1979

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.....2008....

3.Jul.2008

Problem: abscess - right front foot (Confirmed)  
Daily treatment of abscess on right front foot with soaking and  
treating with "wonder dust" continues. There were several new draining  
tracts noted during the flushing process located behind the exuberant  
granulation tissue mass.--mclane (DKR)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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*ELEPHAS MAXIMUS* (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female  
Age: 29Y 6M Est.

Acc. #: 21113  
Birth: 28.Jan.1979

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.....2008...

5.Jul.2008

Problem: abscess - right front foot (Confirmed)

Pushed on skin above abscess and expressed about 2 ml of stinky white chunky fluid from top of abscess. Refilled pocket with saline and expressed it again. Soaked foot in Epsom salt water and applied wonder dust.--rroach (DKR)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female  
Age: 29Y 6M Est.

Acc. #: 21113  
Birth: 28.Jan.1979

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.....2008...

6.Jul.2008

Problem: abscess - right front foot (Confirmed)

Continue to soak front right foot in warm salt water and applied "Wonder Dust" once daily in the afternoon. The area just above the abscess area about 1" appears to have erupted and expressed a small amount of white fluid. Flushed area with saline. -mclane (DKR)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)	Sex: Female	Acc. #: 21113
Asiatic elephant	Age: 29Y 6M Est.	Birth: 28.Jan.1979
Name: CHAI		

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.....2008....

7.Jul.2008

Problem: abscess - right front foot (Confirmed)

Soaked front right pad and flushed abscess with saline. Treated with  
"wonder Dust" Some white fluid noted. --mclane (DKR)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female  
Age: 29Y 6M Est.

Acc. #: 21113  
Birth: 28.Jan.1979

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.....2008....

8.Jul.2008

Problem: abscess - right front foot (Confirmed); EXAMINATION, RECHECK.  
Kelly looked at Chai's foot wound and was exuberant about the recent  
progress. Foot treatment (trimming and wonder dust) and soak b.i.d.  
Continue opening new eruption site to expose the pocket. --rroach  
(DKR)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female                      Acc. #: 21113  
Age: 29Y 6M Est.                Birth: 28.Jan.1979

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.....2008....

8.Jul.2008

Problem: abscess - right front foot (Confirmed); EXAMINATION, RECHECK  
Recheck exam for RF foot.

Exam, recheck: KPR staff were able to reopen the pocket and express some purulent material several days prior to recheck. Through daily trimming of the exuberant granulation tissue and fibrous material, KPR have been able to open the tract longitudinally, about 3/4 of the presumptive tract length (approximately 1.5 cm). This fissure was opened slightly more today through trimming and could be flushed completely with sterile saline. More daily trimming needed to continue to open the tract completely from a straw-like structure to a shallow bowl like structure. Good progress to date.

For the DKR:

Daily trimming of the tract has successfully opened it up along its longitudinal access. Please continue trimming this area to continue to open up the tract and remove redundant granulation and fibrous tissue. Continue daily treatments. Increase to twice daily foot soaks. Wonder Dust prescription is continued. Weekly vet checks to continue.  
(KEH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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<i>ELEPHAS MAXIMUS</i> (no subsp)	Sex: Female	Acc. #: 21113
Asiatic elephant	Age: 29Y 6M Est.	Birth: 28.Jan.1979
Name: CHAI		

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.....2008...

9.Jul.2008

Problem: abscess - right front foot (Confirmed)

Rx: WONDER DUST topically SID for 30 days. (KEH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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*ELEPHAS MAXIMUS* (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female                      Acc. #: 21113  
Age: 29Y 6M Est.              Birth: 28.Jan.1979

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.....2008....

11.Jul.2008

Problem: abscess - right front foot (Confirmed); RADIOGRAPH, SURVEY -  
right front foot

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female                      Acc. #: 21113  
Age: 29Y 6M Est.              Birth: 28.Jan.1979

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.....2008....

15.Jul.2008

Problem: abscess - right front foot (Confirmed); EXAMINATION, RECHECK  
Recheck RF foot abscess- exuberant granulation tissue still present  
with small amount of purulent material at the palmar aspect;  
granulation tissue at outer edge seems to be devitalizing and could be  
trimmed away. Openings to draining tract are small and keeper still  
able to flush through them.  
P: continue current treatment plan except for one of the two daily  
foot soaks substitute chlorhexidine for epsom salt. (JEO)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

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Sex: Female                      Acc. #: 21113  
Age: 29Y 6M Est.              Birth: 28.Jan.1979

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.....2008...

19.Jul.2008

Problem: abscess - right front foot (Confirmed)  
Trimmed some more pad material and calous tissue from around the  
injury on the right front foot. Some exudate present though we were  
unable to express any manually. Fistula appears to be separating from  
the main area of injury.--maluy (DKR)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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*ELEPHAS MAXIMUS* (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female  
Age: 29Y 6M Est.      Birth: 28.Jan.1979  
Acc. #: 21113

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.....2008...

20.Jul.2008

Problem: abscess - right front foot (Confirmed)

Interpretation of radiographs obtained July 11 (vacation). Normal foot.

Radiographs: Front feet/DV - skeletal structures normal, very little gas pattern observed RF, no evidence of osteomyelitis. (KEH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)	Sex: Female	Acc. #: 21113
Asiatic elephant	Age: 29Y 6M Est.	Birth: 28.Jan.1979
Name: CHAI		

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.....2008...

26.Jul.2008

Problem: abscess - right front foot (Confirmed); mucus discharge - vulva  
(Confirmed)

Keeper reports mucous with dark blood found on barn floor yesterday afternoon and this morning coming from vulva. Noted at locations where she was laying down for routine daily care and sleeping. Appetite, general attitude, feces, and urination are normal.

P: blood collected for CBC/Chemistry/Fibrinogen (PHX)  
blood collected for serum progesterone level  
mucous sample for cytology (PHX)

collect blood daily for serum progesterone level  
collect whole blood and serum for sample banking  
repeat CBC/Chemistry/Fibrinogen panel weekly unless otherwise  
indicated

collect mucous sample daily if present for sample banking  
keeper to collect vulvar swab for bacterial culture  
called elephant reproductive specialist for consult (JEO)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)           Sex: Female           Acc. #: 21113
Asiatic elephant                     Age: 29Y 6M Est.     Birth: 28.Jan.1979
Name: CHAI
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.....2008...

29.Jul.2008

Problem: abscess - right front foot (Confirmed); mucus discharge - vulva  
(Confirmed); EXAMINATION, RECHECK  
Recheck exam for RF foot.

Exam, recheck: KPR staff continue to trim back along known draining tracts with considerable improvement. Purulent material occasionally encountered. Exuberant granulation tissue continues to be contained and is very focal with a defined stump that could allow for some removal of this tissue growth. Continued good progress to date.

No blood-tinged vaginal mucous noted in past 48 hr.

For the DKR:  
Daily trimming and care has continued to make positive improvement. Will evaluate options to remove exuberant granulation tissue now that it has been trimmed into a more focal growth. Continue treatments. Weekly vet checks to continue. (KEH)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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ELEPHAS MAXIMUS (no subsp)  
Asiatic elephant  
Name: CHAI

Sex: Female  
Age: 29Y 6M Est. Birth: 28.Jan.1979

Acc. #: 21113

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.....2008...

4.Aug.2008

Problem: abscess - right front foot (Confirmed); CULTURE, DIAGNOSTIC - BLOODY DISCHARGE; CULTURE, DIAGNOSTIC - mucoid discharge ; HISTOLOGY SAMPLE - mucoid discharge (Confirmed); mucus discharge - vulva (Confirmed)

S/O: Mucous discharge from vulva, recurrent: Keeper reports mucous with dark blood found on barn floor this morning (similar to material found on 26 July, 9-days ago); amount approximate 5x5x3cm in size and ~50gms; no obvious staining or continued discharge coming from vulva/urogenital tract; general appetite/attitude, feces and urination are normal.

A: Urogenital/vulva tract discharge from suspected pregnant individual.

P: Diagnostics:

Microbiology sample collected - culture/sensitivity: Phoenix Labs.  
Tissue sample collected: 10% formalin for histopathology: Northwest ZooPath.

Advise:

1. KUO for any continued discharge and record amount, consistency and frequency of material found; photograph if possible.
2. Note that blood collections for serum progesterone levels is ongoing as indirect measure of suspected pregnancy and is not recommended today. (DMC)

Clinical Notes - Individual Specimen Report  
WOODLAND PARK ZOOLOGICAL GARDENS

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Name: CHAI		

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.....2008...

5.Aug.2008

Problem: abscess - right front foot (Confirmed); EXAMINATION, RECHECK  
Recheck exam for RF foot.

Exam, recheck: Exuberant granulation tissue is still present but continues to be slightly smaller or at the very least, contained, by the routine trimmine and topical activated charcoal traetment. No new material expressed, and interdigital region continues to palpate normal, with some fibrous tissue formation suspected. Continued good progress to date.

Patient is BAR, but does continue to have intermittent blood-tinged vaginal mucous; yesterday, a small amount of tissue-like material was recovered for histology and culture evaluation. Recent CBC/panel remains WNL.

For the DKR:

Daily trimming and care has continued to make positive improvement in RF draining tract. Continue foot treatments and weekly vet checks. Please continue to draw a daily blood sample for hormone analysis and submit for a CBC/panel twice weekly. Please continue to collect any vaginal samples and submit to AHD for evaluation. (KEH)

Chai #246 (F. Asian Elephant) DOB: 1979  
2113

Date	P4 (ng/ml)	LH (pg/well)	LH (ng/ml)
5/15/2008	1.37		
5/19/2008	1.00		
5/22/2008	1.28		
5/26/2008	1.35		
5/29/2008	1.64		
6/2/2008	2.23		
6/5/2008	2.34		
6/9/2008	2.25		
6/12/2008	1.97		
6/16/2008	2.33		
6/19/2008	2.25		
6/23/2008	3.62		
6/26/2008	2.27		
7/3/2008	2.01		
7/10/2008	1.68		
7/17/2008	2.08		
7/24/2008	1.86		
7/26/2008	0.50		
7/27/2008	0.32		
7/29/2008	0.22		
7/31/2008	0.16		