

ECO GUIDE OXYGEN PEROXIDUM INJECTION (OZONE THERAPY) S TREATMENT OF INTERVERTEBRAL LESIONS IN HORSES DESCRIPTION OF THE EVOLUTION OF 15 CASES

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Introduction:

Intervertebral synovial arthropathies (T18-L1) are frequently diagnosed

they are associated with stiffness at tro in hand and while ridden, painful local palpation, local muscle spasms, hypotrophy, and poor performance.

Introduction:

The diagnosis is made through clinical evaluation, radiology and ultrasonography.

Medical and physiotherapeutic treatment described to date, have random results.

Introduction:

The analgesic effectiveness of ozone therapy in human has been described in different acute and chronic traumatological conditions,

but there is no enough experience using ozone therapy in horses.

Most recent bibliography in ozone therapy

- Kramer (1980) in human dentistry.
- Konrad (1981) in viral diseases.
- Matassi, (1982) in angiopathies.
- Tietz (1983) in oncology.
- Franzini (1984) in lipodistrophy.
- Balkanyi (1986) in immunology.
- Riva Sanservarino (1987) in physical therapy
- Bocci (1990...) en oncology and immunology.

■ What Ozone is??

“ *Oxygen Peroxidum is a plasma
(negative electrocharged gas)
composed by oxygen with negative
charge*

Ozone-therapy

1- combination Ozone/Oxygen

**2- farmaco-dynamic aspects vary
by ozone concentration**

(1 a 100 ug/ml)

Oxygen- solution

Objectives:

**to describe the clinical evolution
of 15 horses affected by
toracolumbar pain (T18-L4),
injected with oxygen-peroxide
(ozone) eco guide.**

Methods:

horses were selected considering:

- 1) stiffness while the horse is trotting in hand or while being ridden (lameness),
- 2) performance (alteration in jumping like refusing or jumping inverted),
- 3) Longissimus dorsi m palpation pain (From T 1 to L4),
- 4) 6 month evolution
- 5) no treatment 30 days before the peroxide-oxygen injection,
- 6) ultrasonographic diagnostic of intervertebral synovial arthropaties

■ LOCAL PAIN







Methods:

These horses were eco guide injected with oxygen peroxide (40 mcg-100ml), 10 cc in the peripheral point of the lesion, once a week (4 weeks =4 injections).

These horses were checked by three DVM, in different moments (in order to avoid personal influence in the observation), three days after every injection and a week after the last one

Methods:

The parameters considered as positive evolution were:

1) absence of pain during palpation,

2) lameness (Absence of stiffness trotting in hand and while being ridden),

3) performance (absence of refusals and inverted jumping)

Methods:

Ultrasonograph image condition

Image condition compatible to Unilateral
dorsal periarticular proliferation type 4 to 6

sonoscape SSI 600 device and microconvex
probe (11 mm ratio and γ 60 degrees, 5 MHz
central frequency)



KIT-PORTATIL

ALIMENTACION

ENCENDIDO

1 B

ENCENDIDO / APAGADO

1 B



FUSIBLES



CONCENTRACION



AL

VACIO

SALIDA

ENTRADA

ENTRADA
DESTRUCT





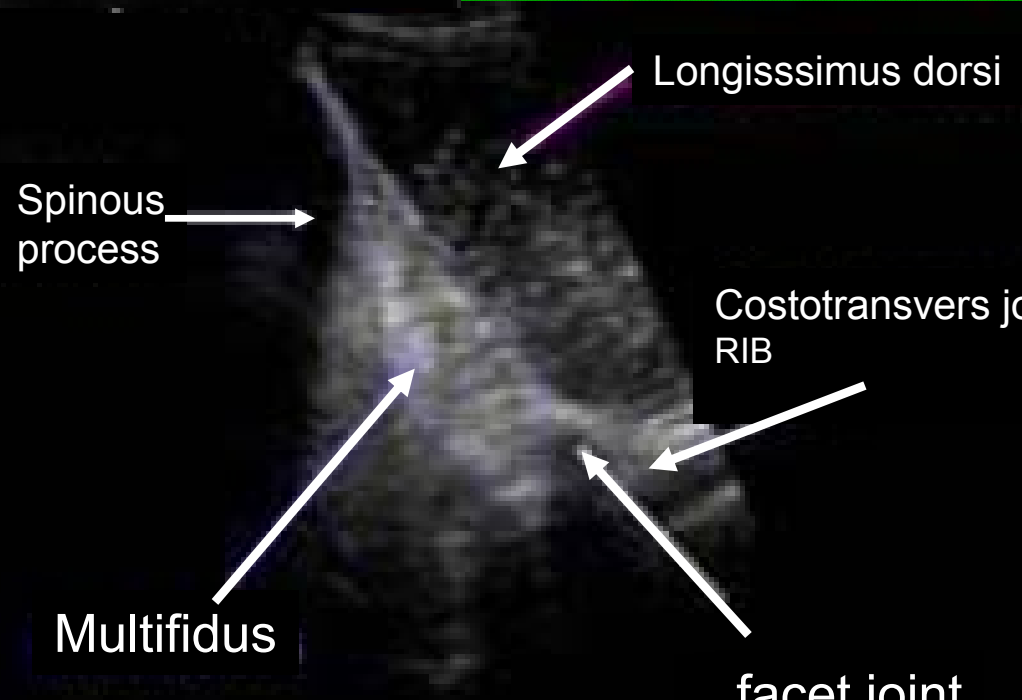
Portable ozone therapy device

ULTRASONOGRAPHIC EVALUATION







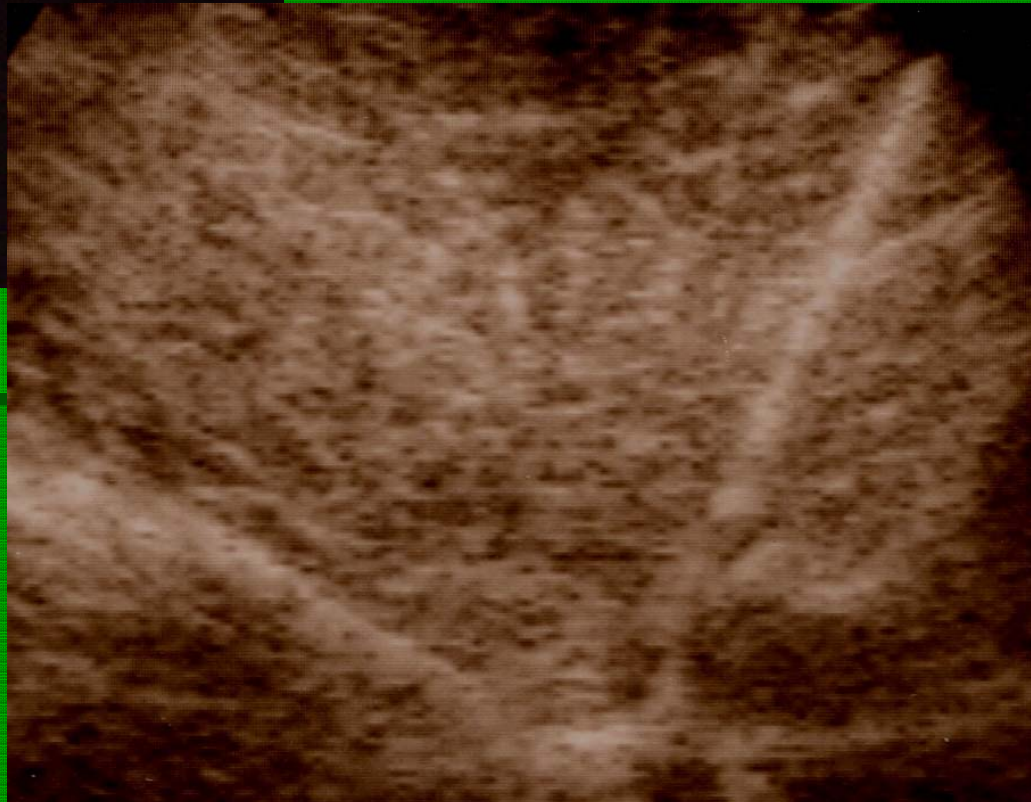




L2L3











SonoScape

Sonoscape

Name: chuchu

ID:

C351 Pancreas30.0°C 22-0

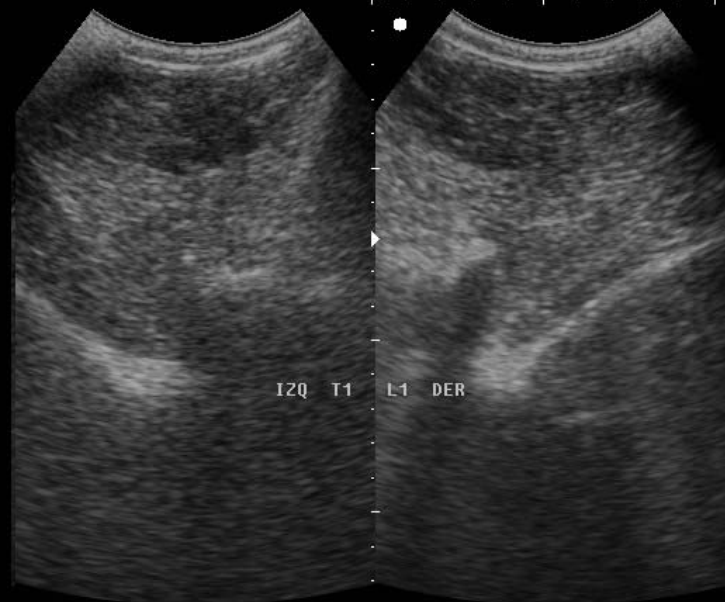
TI/MI:0.5/0.8

10:5

FPS 30 FREQ 2.0~3.0

GSC 1 PERSIST 3

GAIN 115 PWR 70%



09/02/
/17: 37
SI → 00
OH → 1 7
HC → 1
EY → 0
OR → 2
→ C361
→ 5 0H



09/02/
/17: 36
SI→ 00
OM→ 1 7
HC→ 1
EY→ 0
OR→ 2
→ C361
→ 5.0M



F



09/02/
/17: 36
SI→ 00
OM→ 1.7
HC→ 1
EY→ 0
OR→ 2
→ C361
→ 5.0M



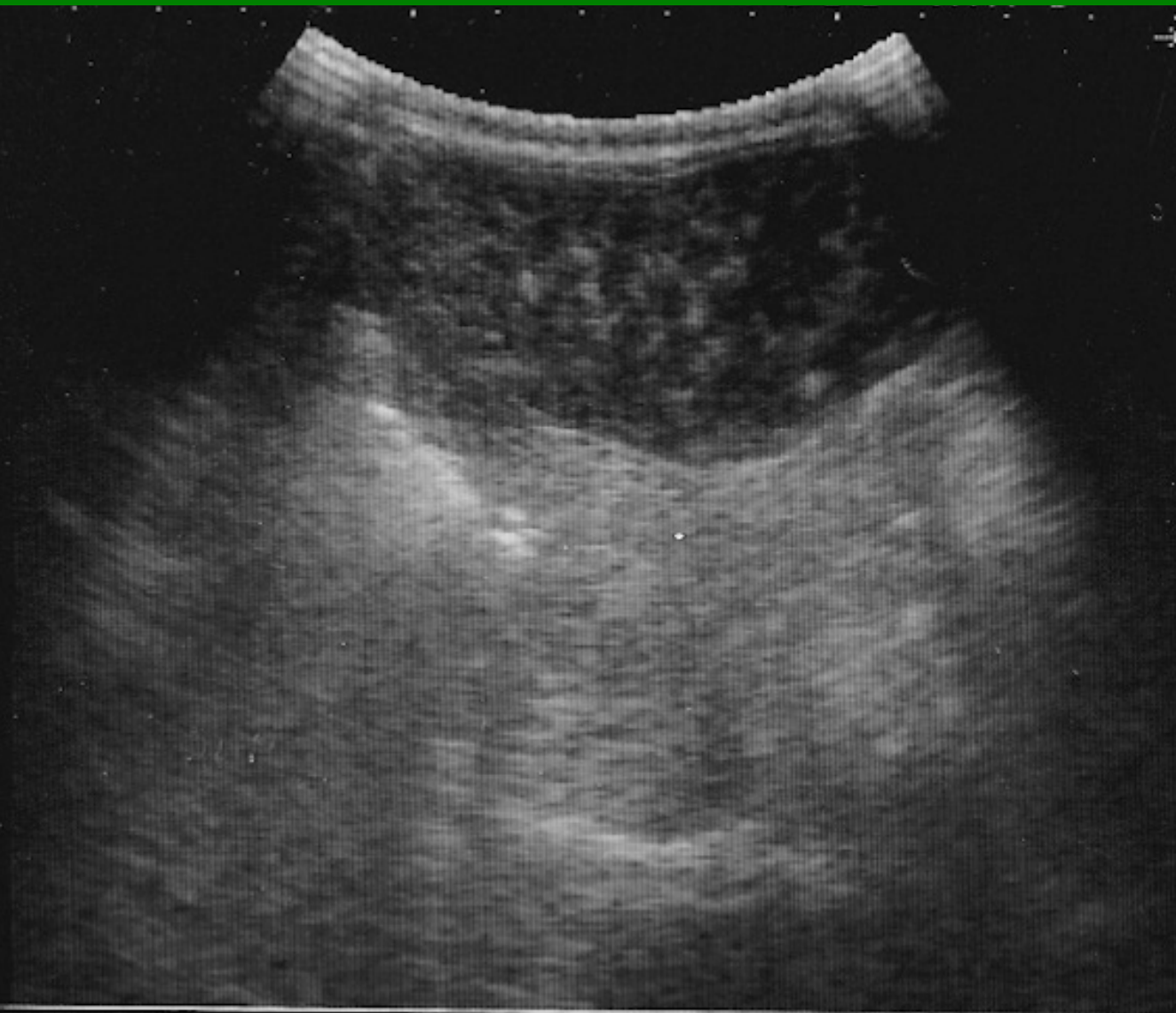
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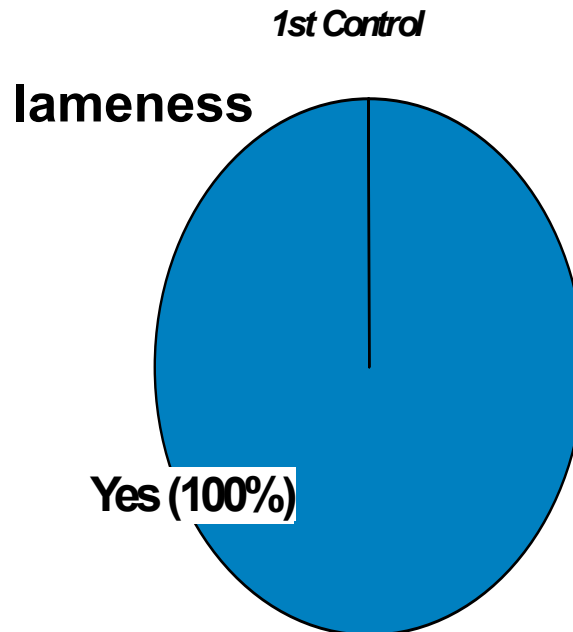
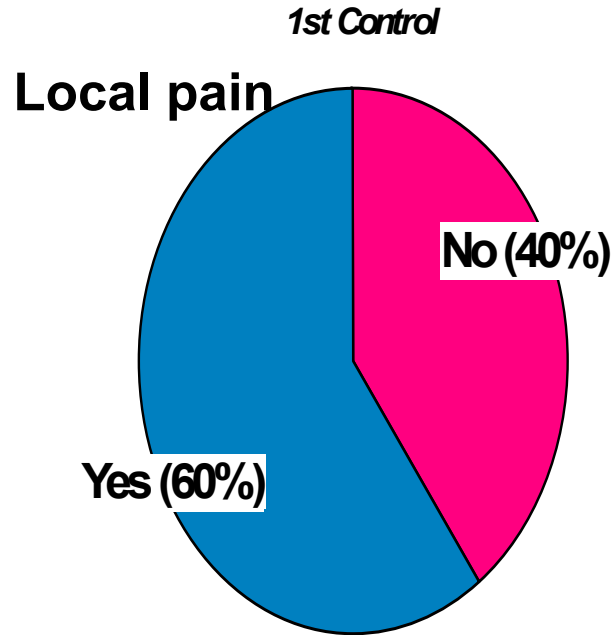
2009/02/
05/17: 35
POSI→ 00
ZOOM→ 1.7
ENHC→ 1
GREY→ 0
CCOR→ 2
PA→ C361
PF→ 5.0M



▶



	Control 1 Local pain	Control 1 Lameness.	Control 2 Local pain
10 a Argentino,	No	Yes	
12 a Argentino	Yes	Yes	
14 a	Yes	Yes	
10 a	Yes	Yes	
15 a Argentino	Yes	Yes	
16 a	No	Yes	
14 a Argentino	Yes	Yes	
11 a Argentino	Yes	Yes	
14 a	Yes	Yes	
10 a	No	Yes	
16 a Argentino	No	Yes	
14 a	Yes	Yes	
9 a Argentino	No	Yes	
8 a	Yes	Yes	
17 a J	No	Yes	

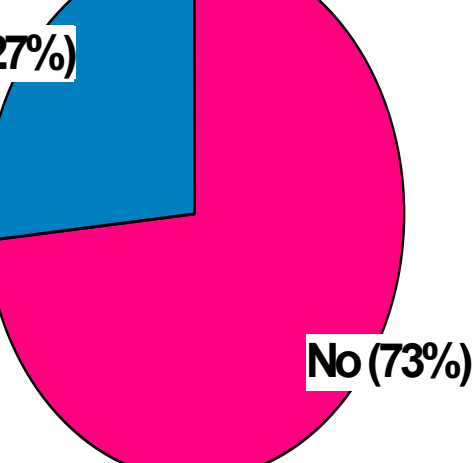
[illegible]

Control 1 Local pain	Control 1 Lameness.	Control 2 Local pain	Control 2 Lameness.	1
10 a gentino,	No	Yes	No	Yes
12 a gentino	Yes	Yes	No	Yes
14 a	Yes	Yes	Yes	Yes
10 a	Yes	Yes	No	No
15 a gentino	Yes	Yes	No	Yes
16 a	No	Yes	No	Yes
14 a gentino	Yes	Yes	Yes	Yes
11 a gentino	Yes	Yes	Yes	Yes
14 a	Yes	Yes	No	Yes
10 a	No	Yes	No	No
16 a gentino	No	Yes	No	Yes
14 a	Yes	Yes	Yes	Yes
9 a gentino	No	Yes	No	No
8 a	Yes	Yes	No	No
17 a	No	Yes	No	Yes

2nd Control

Local pain

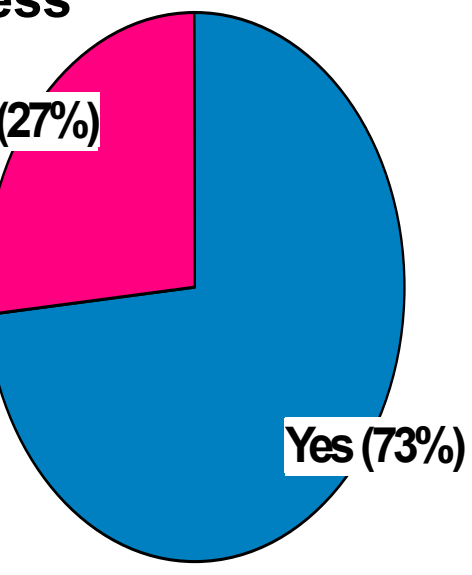
Yes (27%)



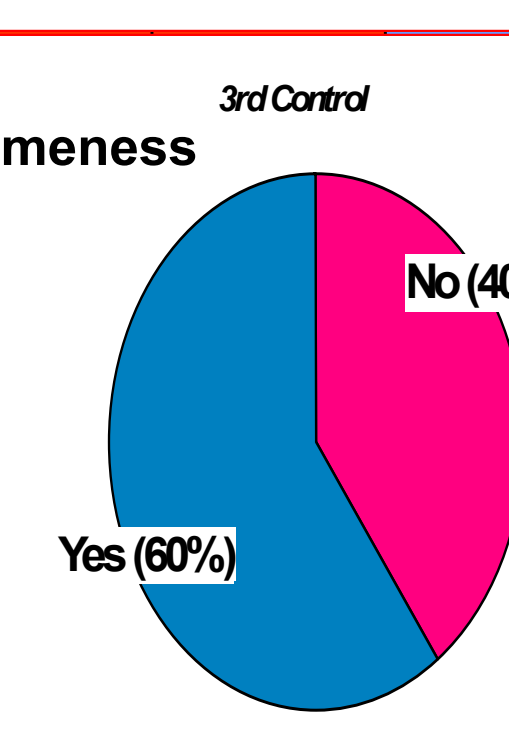
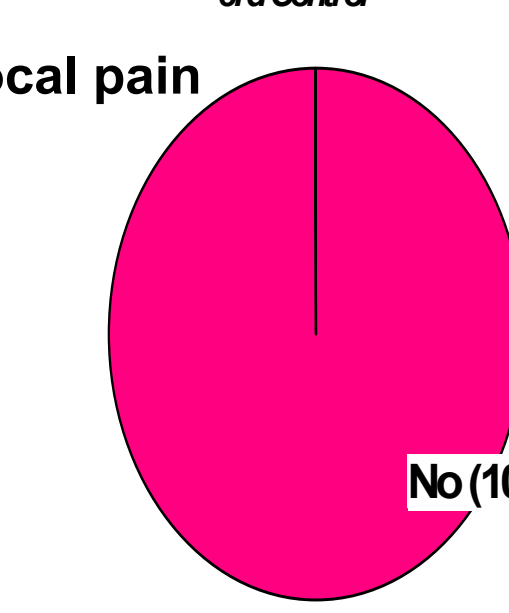
2nd Control

Lameness

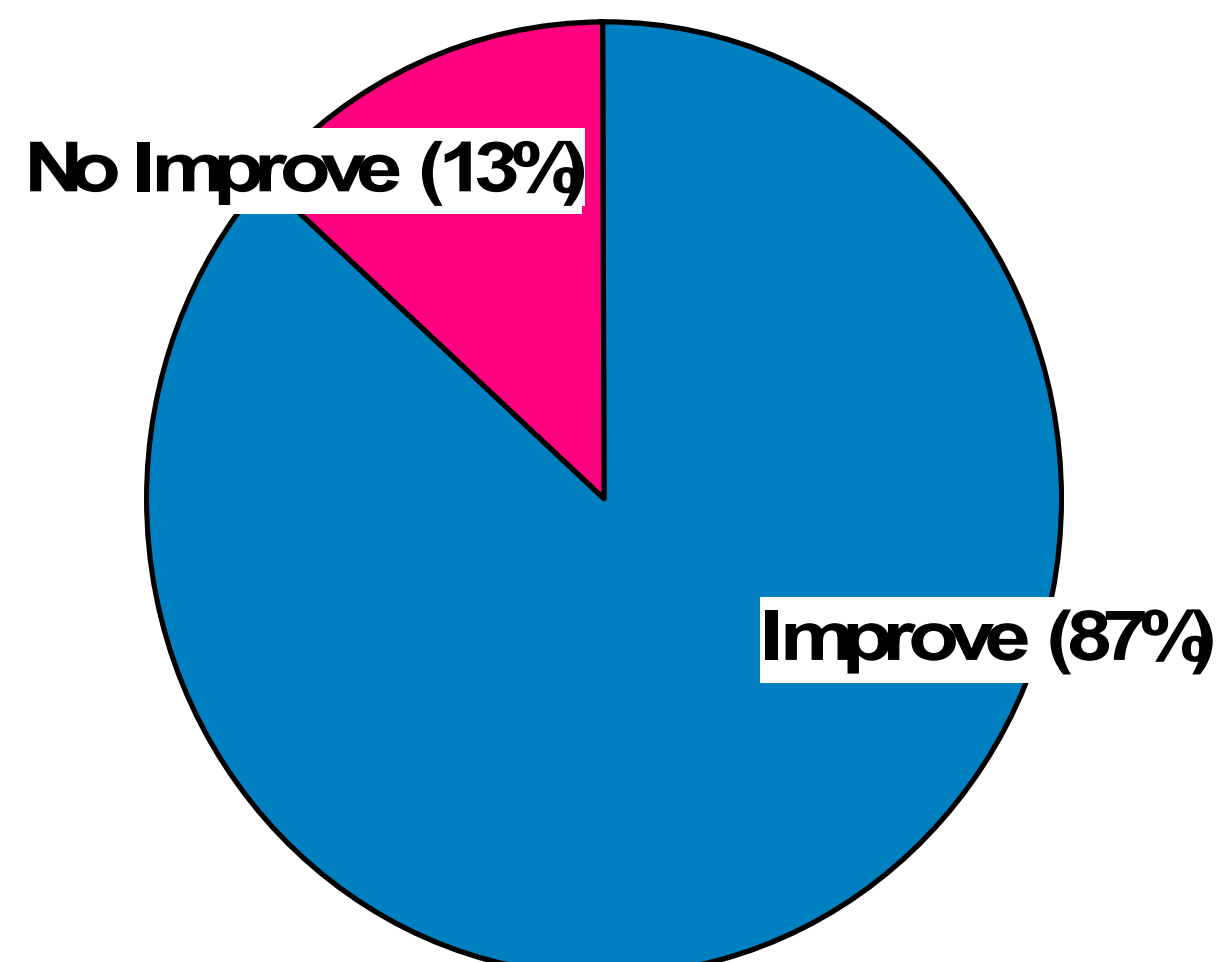
No (27%)



	Control 1 Local pain	Control 1 Lameness.	Control 2 Local pain	Control 2 Lameness.	Control 3 Local pain	Control 3 Lameness
10 a gentino,	No	Yes	No	Yes	No	No
12 a gentino	Yes	Yes	No	Yes	No	Yes
14 a	Yes	Yes	Yes	Yes	No	Yes
10 a	Yes	Yes	No	No	No	No
15 a gentino	Yes	Yes	No	Yes	No	Yes
16 a	No	Yes	No	Yes	No	Yes
14 a gentino	Yes	Yes	Yes	Yes	No	Yes
11 a gentino	Yes	Yes	Yes	Yes	No	Yes
14 a	Yes	Yes	No	Yes	No	Yes
10 a	No	Yes	No	No	No	No
16 a gentino	No	Yes	No	Yes	No	Yes
14 a	Yes	Yes	Yes	Yes	No	Yes
9 a gentino	No	Yes	No	No	No	No
8 a	Yes	Yes	No	No	No	No
17 a	No	Yes	No	Yes	No	No

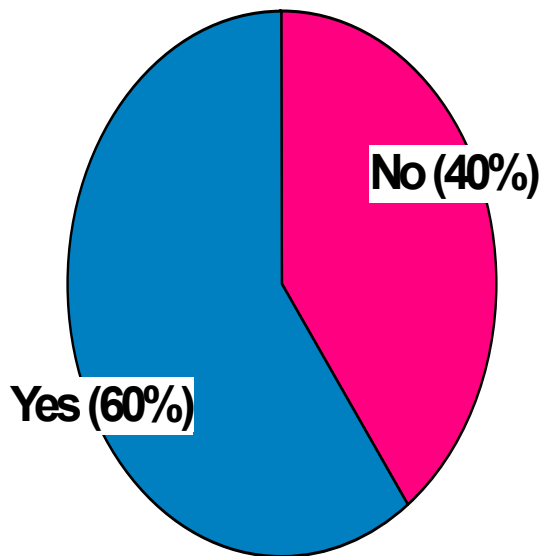


Performance - 2 weeks

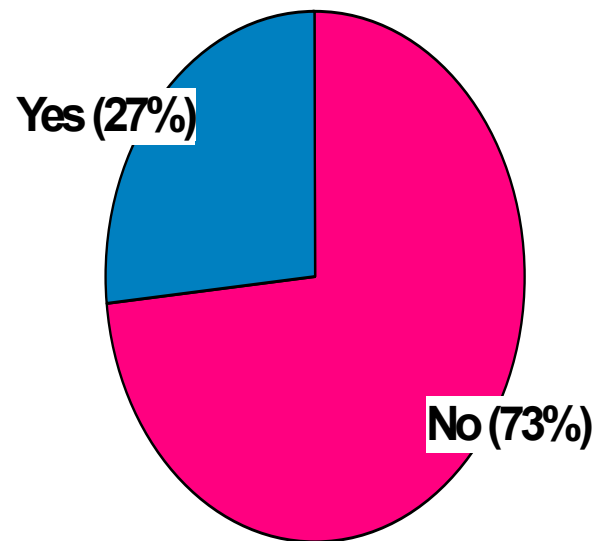


Local pain

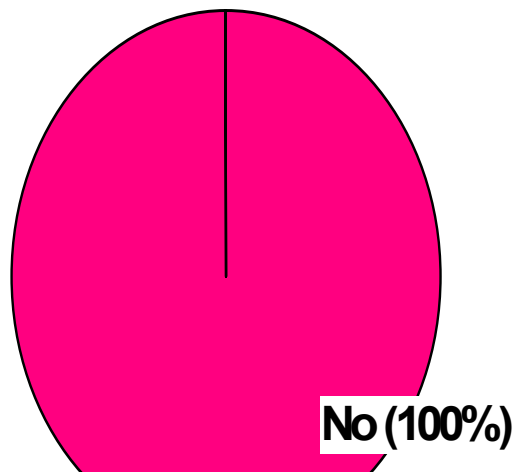
1st Control



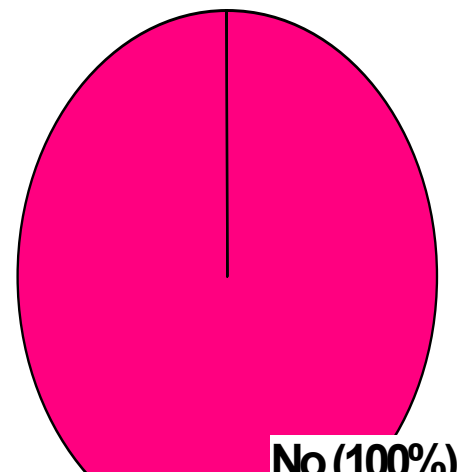
2nd Control



3rd Control

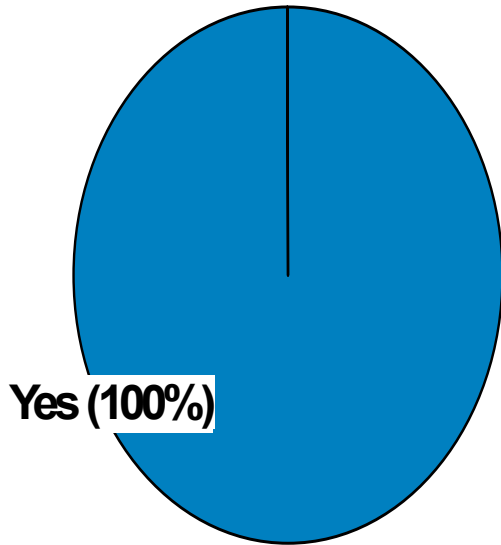


4th Control

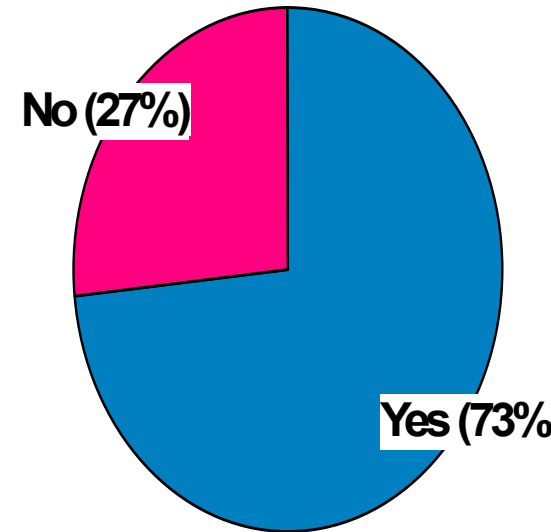


Latentness

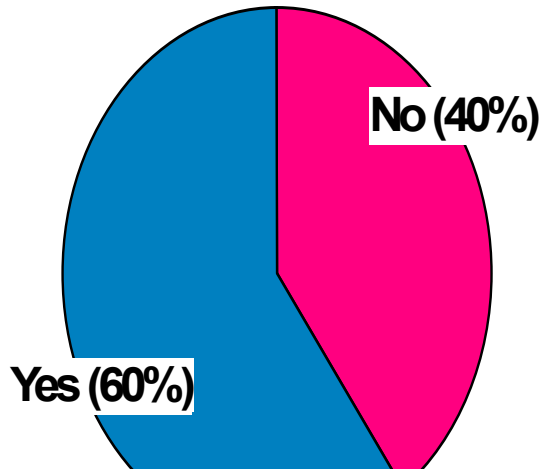
1st Control



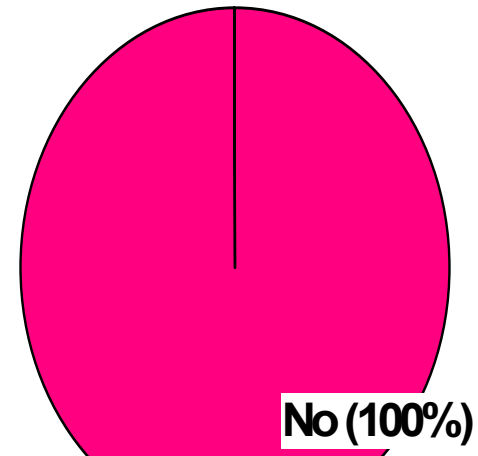
2nd Control



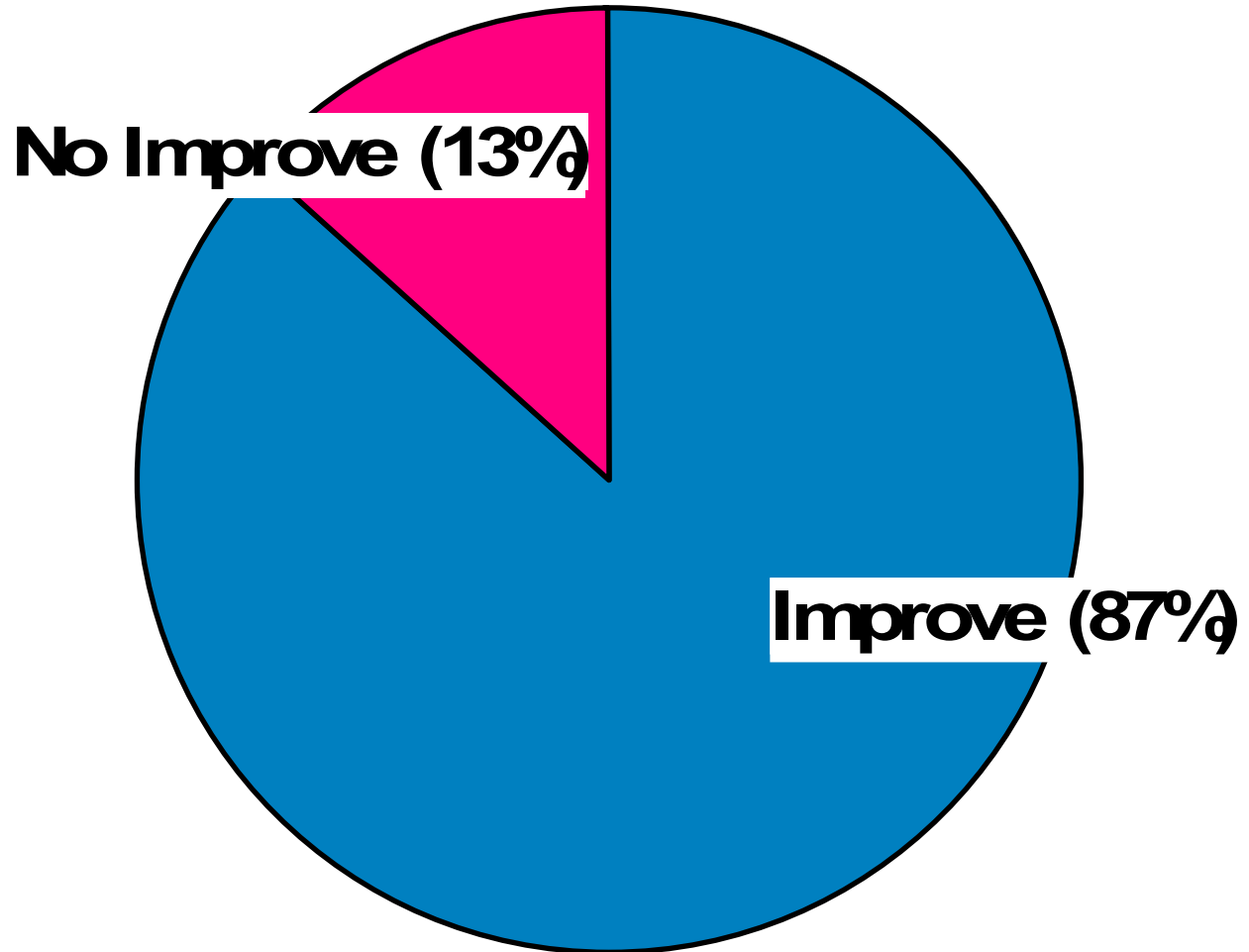
3rd Control



4th Control



Performance - 2 weeks



Results

local pain disappeared
(*M. Longissimus dorsi*
T18-L3)

at 3rd control in 100 %
of the horses,

Results

**lameness improved and
disappeared in a 100 % at
the 4th control,**

Results

the performance improved in
an 86,6 % in the last control
(2 week after the last
injection)

Results

analgesic effects are
presents after 3 weeks

Initial clinical aspects described
in methods gradually appear again
60 days post ozone injection

Discussion

- 1- ozonetherapy provoques direct analgesy by increasing endorphins blocking spinotalmics pain pathways increasing cathecolamins.
- 2 – improves tissue oxigenation increasing 2-3 d p gliceric red cell enzyme which allows oxigen providing from eritrocites.

Discusión

Benefits on blood flow.

- Activation of erithrocity metabolism
- Improvement of 2-3 d-p gliceric acid
- Activation of enzymatic protection of free radicals.
- Decrease blood viscosity and coin formation (Rigraux)
- Improves eritrocites capability of deformation

discussion

3 – improves microcirculation via nitric oxide and increases production of antiradical components S O D

4 - vía IL 10 provoques inhibition of IL cytokine which is a precursor and recycles production of inflammatory prostaglandins depending of COX 2i.

Discussion

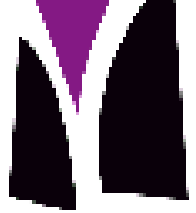
- **Antitoxic effect**
 - Improves tissue blood supply.
 - Specific antitoxin effects.
 - Inhibits free radical production

Conclusion

- the results obtained by these techniques have demonstrated effectiveness of oxygen peroxide injection eco guide as an analgesic technique in intervertebral lesions of the horse.

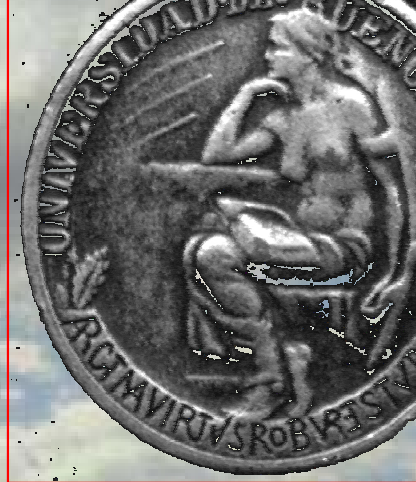
Conclusion

This situation may provides a new protocol of treatment of this condition and clinical basis to continue with research on analgesic and healing effect of ozone therapy (oxygen-peroxide therapy) in horses



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Thank you for your attention...
¿ any questions ?