

PILOT STUDY

The Effects of BIOEQUALIZER™, a Purified Thymus Protein, and Silver Sol Solution™ on Thoroughbred Racehorses Afflicted with Exercise Induced Pulmonary Hemorrhage (EIPH) using Flexineb™ Nebulization and or Oral Administration.

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SUMMARY:

Eighteen Equine patients with persistent Exercise Induced Pulmonary Hemorrhage (EIPH) which bled out of the nose, or with a 3 or more out of a possible 5 scale, from the lungs, as evidenced by post-exercise endoscopic examination, were treated orally, or nebulized with a FLEXINEB® nebulizer, using a combination of BIOEQUALIZER® (an ultrapure thymus protein plus zinc) and SILVER SOL® solution. All patients showed vast improvement in decreasing the level of post-race hemorrhage which suggests this combination may prove useful in the treatment of EIPH in Thoroughbred racehorses.

Each patient was treated 3 days each week at intervals of 48-72 hours between treatments, for a period of approximately 90 days.

INTRODUCTION:

Exercise Induced Pulmonary Hemorrhage (EIPH), also known as "bleeding", refers to the presence of blood in the airways of the lung in conjunction with exercise. EIPH is common in horses undertaking intense exercise. Horses that experience EIPH may also be referred to as öbleedersö. In the majority of cases EIPH is not apparent unless an endoscopic examination of the airways is performed following exercise. However, a small proportion of horses may show bleeding at the nostrils after exercise, which is known as epistaxis.

As a result, any restriction in upper airway diameter, obstruction of the airways, diseases or stress related conditions that reduce oxygen uptake from the air sacs can have a great influence on potential athletic performance.

The equine respiratory system is continually challenged by a vast number of foreign contaminants including, viruses, bacteria, fungi, ammonia, synthetic fibers, and etc. that are in the air, from racetrack and arena surfaces during exercise, or from dusty bedding, feed, and other stable conditions. Other vital factors are the added stress of high energy feeds, racing, and stall confinement 23 out of 24 hours all of which are conducive to suppressed immune function

METHODS AND MATERIALS:

BIOEQUALIZER™ is an over the counter supplement which contains polypeptides that are specific intact biologically active molecules unique to BIOEQUALIZER® and have shown the

ability to stimulate mature T- lymphocytes and enhance mammalian immune response to infectious agents and to malignancies. These polypeptides have been studied for decades. The proteins are ultra-purified and combined with Zinc Gluconate, then freeze dried to maintain potency and bioavailability, and when reconstituted with the 30ppm SILVER SOL Solution becomes a viable supplement for either oral sublingual use or which can be used in a Flexineb nebulizer. It is now commercially available as BIOEQUALIZER in a multi-vial unit of 1000mcg ultrapure Thymus Proteins, plus 12 mg Zinc Gluconate powder, and a 30ppm SILVER SOL reconstitution solution that can be nebulized or taken sublingually (1000 mcg/dose) 3 times a week.

Each patient was treated 3 days each week at intervals of 48-72 hours between treatments, over a period of up to 90 days.

RESULTS:

Patient *on file	Sex	Pretrial EIPH or PLH score	Total Days Treated Neb/Oral	Total races since Rx start	Post-work or Race EIPH/PLH score	Win (Stk)	Place (Stk)	Show (Stk)	Remarks
1.	M	EIPH5/5	44/2	4	EIPH w1 R1,0	2 (2)	1	0	Scopes clean
2.	M	EIPH5/5	24**	0	EIPH w0				Condition improved, changed trainers
3.	M	EIPH4/5	21/2	2	EIPH w1 R0	1	1		Gained weight, trains forwardly
4.	F	EIPH4/5	24	3	EIPH w0 R0		1	1	Attitude and haircoat improved
5.	M	EIPH3/5	24	2	EIPH w0 R0				Full of skin sores and unthrifty when claimed now picture of health
6.	M	EIPH4/5	26	0	EIPH w0				Scopes clean
7.	M	EIPH5/5	37	1	R nose				retired
8.	F	EIPH Nose	40	3	EIPH w1 R1,0		1		3 tough races ran brilliantly

9.	M	EIPH4/5	30	0	EIPH w 0				Looks healthy
10.	M	PLH 3 Mucus2	7	2	PLH 0 Mucus0		1		Cough, mucus gone for race
11.	F	PLH 3 Mucus3+	6	0	PLH 1 Mucus1				PLH and mucus gone
12.**	F	PLH cyst	10	0	PLH 0				Breathes easier, but got hurt
13.**	F	EIPH Nose	15	0	EIPH w1 R0				No more bleeding
14.	F	EIPH3/5	25/1	1	EIPH w1 R0				Wt gain, different filly
15.	M	EIPH4/5	25/1	3	EIPH w1 R0		1 (1)		Stakes horse coming to form no blood
16.	M	EIPH4/5	15	1	w0 R0				clean
17.	M	EIPH3/5	10	0	EIPH w0				Scopes clean
18.**	M	EIPH4/5	4	1	EIPH w0 R0	1			Won 1 st race- clean
19.**	F	EIPH4/5	4	1	EIPH w0 R0	1			Won 1 st race- clean
20.	F	EIPH4/5	16	1	EIPH w0 R0				Scoped clean
21.	F	EIPH3/5	12	1	EIPH w0 R0			1 (1)	1 st race beat hd and neck- G1stakes, no blood
22.	M	Non- healing foot abscess For > 4mos	13		Infection controlled after 4 treatments, No odor or pus, walks sound				Chronic foot abscess, now healing normally

Notes:

*Patient names on file

**Patient left trial early, claimed, moved or injured

W 0-5=Post work EIPH score, R 0-5 = post-Race EIPH score, nose = bled from nose

- **Race track Performance;**

26 starters 5 Wins (19.2%) (2 Stks 8%), 6 Place (23%) (1 Stk 3.8%), 2 Show (7.6%) 1 Stk (3.8%) Total; 13 starters or 50% in the money!

- **Results of EIPH treatments;**

- 18 horses bled either from the nose or from the lungs with an EIPH score of 3 or more out of a possible 5 via Endoscopic Examination prior to FLEXINEBÎ nebulization treatment with the BIOEQUALIZERÎ & SILVER SOL SOLUTIONÎ . During the treatment period there were 6 horses that bled an EIPH 1 working the first time post treatment, then were clean during subsequent works.
- There were 2 horses that bled an EIPH 1 the first race post treatment and recorded EIPH 0 in subsequent races. One horse bled from the nose his first race subsequent to treatment and he was retired.
- **Totals; Of the 18 horses treated for serious chronic EIPH of 3/5 or more, 6 or (33%) bled an EIPH 1 their first work post treatment, then recorded EIPH 0 in works thereafter.**
- **Horses racing had 2 out of 26 starters bled an EIPH 1 or (7.6 %) and 1 horse bled from the nose or (3.8%) and 23 of 26 starters finished with an EIPH 0 or (88.5%) success rate.**

DISCUSSION:

Although this was a non-blinded pilot study, the fact that a significant reduction, or the total absence of post-race bleeding or EIPH occurred in a majority of patients, who had persistently bled in the lungs or from the nose, as diagnosed by post-race endoscopic examination, suggests that the role of BIOEQUALIZERÎ in the modulation of Cell Mediated T lymphocyte immunity, in conjunction with the anti-inflammatory properties of the SILVER SOL SOLUTIONÎ should be investigated in more detail. In addition, given that all of the participantø displayed increased hair coat luster, facial mask, and large dapples, along with increased weight gain, suggests this combination of supplements may be important in the management of the over-all health and welfare of racing Thoroughbreds, by increasing their immune function, and should be studied further.

Additionally, the few horses that were treated with this combination for PLH and one with a long standing infected, indurated foot also responded very well and are still showing vast improvement in their healing process. These results also demand further investigation.

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