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CHRONIC IDIOPATHIC MYOPATHY IN ICELANDIC HORSES WITH A SYNDROME CHARACTERISED BY PARESIS AND POOR PERFORMANCE

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Aim

To describe the phenotypic traits and histopathological features derived from muscle biopsy samples in a series of Icelandic horses with similar presentation and histopathological changes characterised as a chronic idiopathic myopathy.

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This study highlights the importance of considering an underlying myopathy in Icelandic horses with decreased performance with or without a mild elevation in serum CK activity.

METHODS

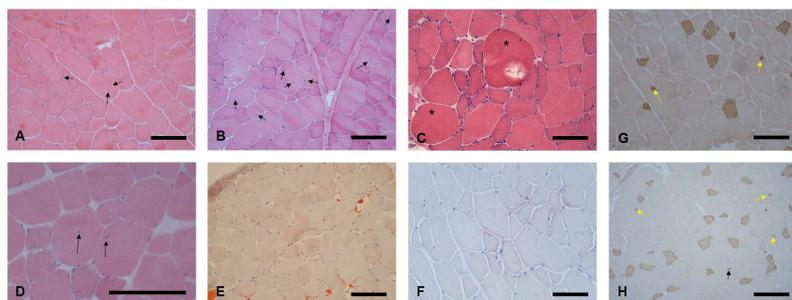
Biopsy reports from 20 Icelandic horses were included in this retrospective study. Phenotypic characteristics were reviewed in seven of the horses (age range 7-17 years, one mare and six geldings). Muscle samples of M. semimembranosus had been biopsied using an open method.



PHENOTYPIC TRAITS

- ❖ Decreased performance
- ❖ Stumbling
- ❖ Tachypnoea
- ❖ Fatigue after mild exercise
- ❖ Normal or mild increase in resting CK (mean 748 U/L, normal <348 U/L)

HISTOPATHOLOGICAL RESULTS



Histopathological features in muscle biopsy samples from different Icelandic horses with poor performance or paresis

Internalised nuclei (generally indicative of muscle regeneration) (A,B,D; black arrows). Fibre hypercontraction and hypertrophy (C; *). Endoplasmic and sarcoplasmic lipid accumulation (E,F; orange spots/drops). Atrophied / hypotrophic type 1 (slow twitch) muscle fibres (G,F; yellow arrows). A,B,C,D – haematoxylin and Eosin; E,F – Oil red O; G,H – immunohistochemistry for type 1 myosin heavy chain (brown fibres are type 1). Scale bars: all 100µm.

DISCUSSION

The combination of similar phenotypic features and muscle histopathological changes is not suggestive of other reported myopathies of horses and suggests the possibility of a novel, possibly inherited disorder in Icelandic horses. Future studies should include a prospective, controlled investigation in affected and unaffected Icelandic horses.

Interested in equine muscle disorders? Podcast on equine rhabdomyolysis:



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