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ORIGINAL ARTICLE

Hyprechoic Status in the Lens of a Horse Eye

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ABSTRACT

The aim of recent study was to describe the useful of ultrasonography technique in animal studies especially in eye examinations. In this study, we done ultrasonography operations in a horse and observed a hyperechoic area accumulation inside of the right eye lens. This area measured on the eye scans. This finding is confirmed in clinical examination and illness of cataract diagnosed.

Key words: eye, hyprechoic, lens, ultrasonography

Introduction

Nowadays, one of the methods using for eye diagnostic imaging is usage of ultrasound waves. Special sound waves from the transducer system will be sent directly toward the eye and return echoes from these coincided sounds with eye structures are obtained. These echoes are conversed to picture and scans [1,3, 6].

Eye pattern ultrasonography display in A-scan and B-scan modulation and with usage of this technique, can be discovered some eye diseases from normal statue and by also this tool can be studied the structures of eye [6,10].

By two-dimensional ultrasounography can be seen internal structures of the eye such as cornea, anterior chamber, ciliary body, lens, vitreous chamber and then can be evaluated them[3,9,12].

One of the important structures of the eye is lens that has an especial echo in ultrasounography. Anterior and posterior parts of the lens are easily found by ultrasonography [3,7,11].

Maybe Ultrasound during through the lens may cause artifacts to the underlying structures. This act probably cause more prominent in the posterior wall of the eye behind the lens that this would be the effect of acoustic enhancement waves in this region [3,9].

Materials and Methods

In a case in the referral clinic of Tabriz branch, Islamic Azad University had ultrasound eye was completed.

To do this work after the preparation of working conditions, horse was physically inhibited in a crush.

Transpalpebral ocular ultrasonographic examinations by using a 6-8MHz Linear array probe was done. In ultrasonographic operation, Pie Medical ultrasound machine with Aqula model (Esaote Inc.) was used in this study.

A coupling gel was used for prepare suitable contact between transducer and eye.

Many appropriate views of the eye in several image planes were obtained and print the resulting images were produced.

The globes were examined in standard described models in both right and left side of the body.

In vertical approach, the structure of the eye was different shape in right side of body that this different not observed in another side. By angling a little in probe approach, had seen a hyperechoic area inside of lens. Which strongly echo under this region was observed until middle of vitreous fluid and this finding an abnormal state.

Echo of the another posterior structures of the eye has been seen normal in other approaches.

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Of course, this hyperehoic statue can not maybe seen in many views and mast be attention in getting of suitable approach for see of it.

The following figure obtained from this study will see (fig1):

Results and discussion

This study pointed out that ultrasonography with clinical signs could be used in horse for examination of eye [4,5,8].

Hyperechoic area was seen as brightness site which can be distinguished easily from around structures.

In this study, as it can be seen from the scans of the lens eye had more echogenicity compared to another side. Also it is possible to detect increased brightness inside of right lens according to abnormalities. In recent study, increased echo state was observed in lens area as a focal and irregular hemicircular pattern which may an abnormal finding.

In this study, echogenicity of right lens area compared with the same left side was higher. This is shows an abnormality situation.

This finding is confirmed in clinical examination and illness of cataract diagnosed by using an ophthalmoscope.

It seems that ultrasonography is a valuable diagnostic tool for detecting of eye abnormities and ultrasonography can particularly useful for the detection of lens disease such as cataract.

Finally, ultrasonography was a comfortable utility in diagnostic imaging of eye and can be used in diagnose of eye abnormalities.

Obtained data are showed in tables 1.

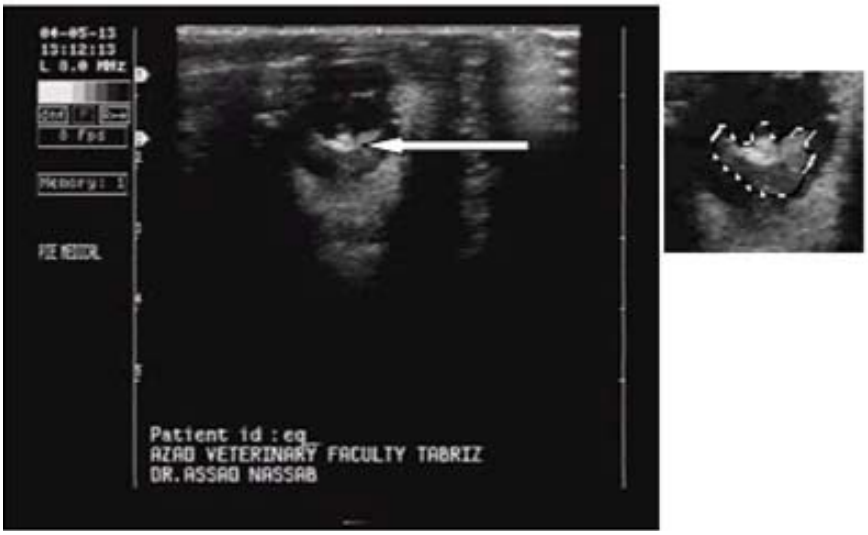

Fig. 1: Hyprehoic status inside of the lens in a horse eye, arrow shows this area and magnified of it in right side of picture.

Table 1: Character of hyprechoic area inside of the lens.

	Area	Width in maximum	Length in maximum
Hyprehoic area inside of the lens	50.36 mm	6.2 mm	9.7 mm

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