

A CASE OF A 2 YEAR ADOPTED DSH CAT WITH ACUTE ABDOMINAL TRAUMA, RICKETS SKELETAL ABNORMALITIES AND UNILATERAL RENAL HYPOPLASIA

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INTRODUCTION

This is the case of a 2 year old DSH presented on 25.09.2012 with acute abdominal trauma after a road accident. During investigations, abdominal ultrasound scan, whole body plane and contrast radiography, abdominal exploratory surgery, one can find different, unrelated pathology and stunning abnormalities which remained undetected and with no clinical presentation until now. All investigations follow a step-by-step protocol in order to further discover and assess hidden pathology. This case stands for a better medical care for our pets and for the gross pathology that one can find in stray animals, which is the “tip of the iceberg” pathology that these animals can harbor and still survive, as a wonder o life itself.

Keywords: abdominal trauma, renal hypoplasia, rickets

This is the case of a 2 year old DSH presented on 25.09.2012 with acute abdominal trauma after a road accident. The cat is in post-traumatic shock and after shock therapy is submitted for further investigations. From the owner questioning one can find out that the cat was castrated a year ago. There is no ascendancy information as the cat was adopted from the street while a kitten.

The cat is in a poor shape, confused, in pain and the owner said that she saw the cat urinating blood-like color. Supportive care and pain management protocols are put in place and the cat is registered as in-patient(4). The cat is then prepared for abdominal ultrasound scan. After the ultrasound scan next step is the plane and contrast radiography. For confirmation of the preliminary findings an exploratory abdominal surgery is prepared.

MATERIALS AND METHODS

The case is admitted in Salvavet-Ilioara Animal Hospital. For the abdominal scan is used a Esaote Ixos Vet Doppler scanner with micro-convex and

linear, 3 frequencies probes. The frequency of choice for abdominal scan was 10 mH for the micro-convex probe. For x-rays I used a mobile unit Philips Practix 33 Plus. Exposing protocol was 48 mV/10 mAs. The contrast is Iopamiro solution used 0,5 ml/kg and it was injected IV(2, 5). The cat has 3 kgBW. During investigations, abdominal ultrasound scan, whole body plane and contrast radiography(8), abdominal exploratory surgery, one can find different, unrelated pathology and stunning abnormalities which remained undetected and with no clinical presentation until now. All investigations follow a step-by-step protocol in order to further discover and assess hidden pathology. There is described a parallel of the ultrasound, plane/contrast radiology and the macroscopic aspect of the renal abnormalities(7).

RESULTS

First abdominal scan reveals the reason for urinary blood-like color. One can detect a regular shaped urinary bladder that is filled with liquid and other floating structures which are considered to be blood clots. There is no integrity loss hint. Furthermore there is no free liquid inside the abdominal cavity or around the urinary bladder, nor into Douglas space. The left kidney becomes visible and is considered to be enlarged, with the longitudinal axis of 4 cm (fig.1) but with normal architecture.

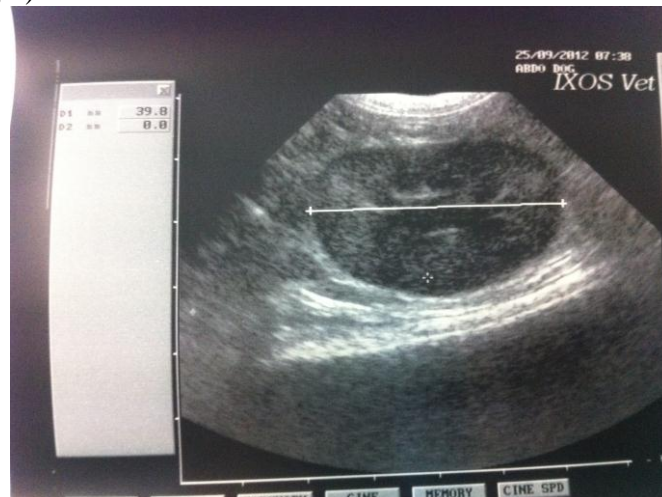


Fig.1 Left kidney of the traumatic cat. Long ax of 4 cm with normal architecture.

There are no other findings worth mentioning until right kidney is reached for examination. It appears to be somehow hard to find. Right kidney has no visible normal architecture and is very small, 2,4 cm/1,2 cm (fig.2.).

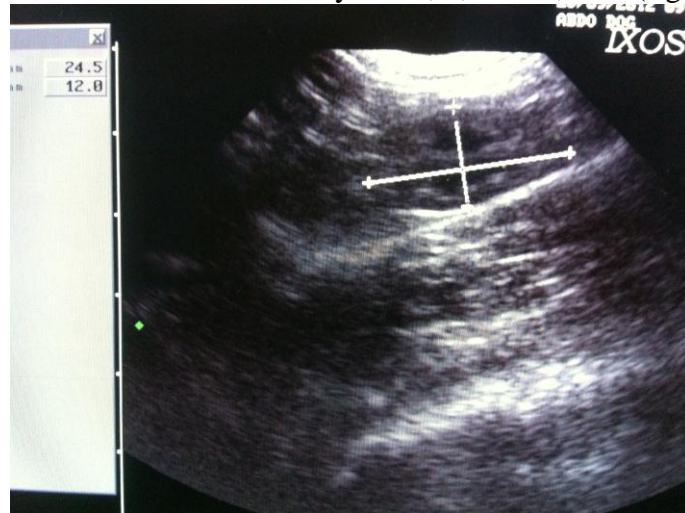


Fig.2 Right kidney of the traumatic cat. No visible renal architecture, 2,4 cm/1,2 cm.

After these findings the cat is submitted for further examinations for two reasons. First of two is to eliminate/confirm any large bone/vertebral injuries and thoracic trauma. Second reason is to confirm renal abnormalities. Two x-rays were taken, one VD and one in lateral recumbence. First lateral x-ray reveals a visible thoracic vertebrae abnormalities-lordosis (fig.3.)(1,6). On the VD aspect one can additionally find scoliosis. In contrast there is no visible thoracic trauma. The abdominal view (fig.4.) reveals also some new findings. Caudal to the left kidney there is an area overlooked at the abdominal scan which appears to be a large hematoma. Left kidney is easily found but the right one is very difficult to detect. Even after intravenous pielography one can struggle to find the right kidney. This kidney is considered to be a hypoplastic one. We can not know if this finding is doubled by genital abnormalities as by the time the cat is presented it was already castrated with no information in regards to any pathology findings.



Fig.3 Lateral aspect plane x-ray of the cat with thoracic post-rickets skeletal abnormalities- lordosis.

After the patient is stabilized an exploratory abdominal surgery is put in place. One can easily no confirm all previous findings: urinary bladder injury, large hematoma caudal to the left kidney, enlarged left kidney and very small, hard to find right kidney (fig. 5/6.).

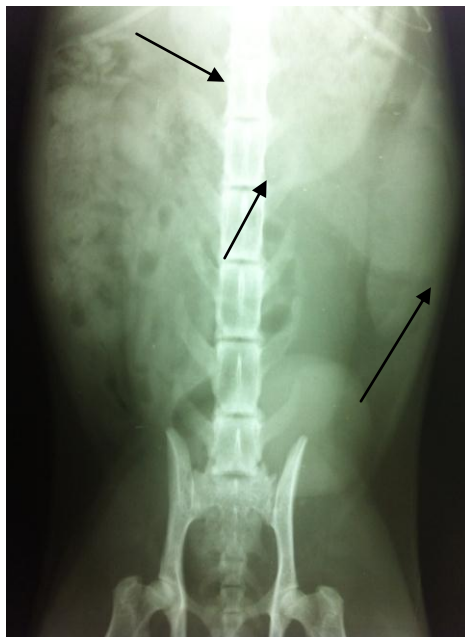


Fig.4 VD aspect, contrast x-ray. On the left, the two arrows point out the right hypoplastic kidney. On the right arrow point the left enlarged kidney with large caudal extracapsular hematoma. Urinary bladder filled with contrast.

In this case presentation, one will surprisingly find abdominal hemorrhage and hematoma, urinary bladder injury, skeletal abnormalities after rickets, unilateral renal hypoplasia. This is a surprise case and reveals the importance of emergency imaging scan means but at the same time it also reveals shocking discoveries about developmental abnormalities that can remain undetected even after usual abdominal procedures and regular clinical examinations.



Fig.5 Left kidney after exploratory abdominal surgery. Fig.6 Right hypoplastic kidney

CONCLUSION

Step-by-step and complete abdominal scan and whole body radiography can reveal not only physical injuries in the post-traumatic emergency patient but also unrelated and previously undetected pathology.

Considering past discoveries I can suggest that renal hypoplasia is one condition that is not uncommon in cats.

All the imaging means produce a clear diagnostic confirmed by exploratory surgery.

It is worth mentioning that it is preferable to use rapid/non-invasive techniques as the ultrasound scan for emergency purposes and leave all other for further examinations after patient stabilization.

Exploratory surgery is the one procedure that produces eye-shocking results but is the most invasive procedure of all.

This case stands for a better medical care for our pets and for the gross pathology that one can find in stray animals, which is the “tip of the iceberg” pathology that these animals can harbor and still survive, as a wonder of life itself.

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