

## SUCCESSFUL KIDDING BY MAHALI DOE WITH A RUPTURED PREPUBIC TENDON

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### الملخص

تمزق وتر ماقبل العانة هو حالة نادرة الحدوث وخطيرة تحدث في الأيام الأخيرة من فترة الحمل حيث دائما تكون مصحوبة بتوقعات غير محمودة العواقب قد تؤدي إلى موت الأجنة أو الأم الحامل أو كلاهما. ولقد تم توثيق هذه الحالة في العديد من الحيوانات الأليفة ولأول مرة مثل هذه الحالة توثق في عنز من النوع المحلي في ليبيا حيث أن العنز كانت حاملا في المرحلة الأخيرة من فترة الحمل يبلغ عمرها حوالي الست سنوات ووزنها على أقصى تقدير 25 كيلوجرام. والتي تم جلبها الى عيادة الكلية بجامعة طرابلس وذلك لأنها تجاوزت مرحلة الولادة الفعلية بأيام ، مع وجود تورم إنتفاخي في الناحية اليسرى الخلفية لمنطقة البطن. وبوقوع الكشف السريري لوحظ أن الماعز كانت تعاني من تهتك في وتر ما قبل العانة وهذا ماترتب عليه تأخر في عملية الولادة. بعد الفحص البدني وتسجيل بعض العلامات الحيوية وكذلك إجراء الفحوصات بالموجات فوق صوتية تبين الأتي : حالة العنز تعتبر جيدة نوعا ما و كذلك الحال لتوئمتها ، الإنتفاخ الذي كانت تعاني منه كان نتيجة لتمزق وتر ماقبل العانة كما لم يلاحظ اي فتق بالجدار البطني وكل الأحشاء كانت داخل التجويف البطني. من خلال ماتقدم من ملاحظات وتشخيص مبدئي تقرر الى الدفع للولادة الطبيعية بدلا من التدخل الجراحي حيث تم التجهيز الى ذلك بإعطاء بعض الأدوية المساعدة والداعمة للولادة وبعد فترة من المراقبة والإجراءات الطبية تمت الولادة لإثنين من التوائم السليمة ومن تم وضع الام مع توئمتها تحت العناية المركزة لتجنب أي مضاعفات محتملة. وبعد ثلاثة أيام تم خروج العنز مع توئمتها من العيادة.

وختام ما تقدم أن تمزق وتر ما قبل العانة يعد من أسوأ المواقف التي يمكن أن تواجه الطبيب البيطري لما يحتاجه من تدخل فوري لتجنب أسوأ المضاعفات. كما يجب أن يكون في إعتبار كل مربى حيوانات أن مثل هذه الحالة قد تكون متوقعة وخصوصاً في حال النعاج والماعز لكونهما تلداً أكثر من مرة في العام وتتميز بولادة التوائم في كل ولادة ومايصحب هذه العملية من ضعف عام وخلل تشريحي ووظيفي في الأربطة الداعمة داخل منطقتي الحوض والبطن.

#### **Abstract:**

**Background:** Tearing up the Prepubic tendon is a rare and serious condition which occurs in last stage of pregnancy, and always has a poor prognosis to the parturition steps, and eventually may lead to lose of either the offspring or both with their mom as well. Rupture of the Prepubic tendon has been reported in several animal species. **Case presentation:** 6 years old Libyan local breed known with Mahali goat, which was pregnant in the last stage of pregnancy, and presented at the animal hospital clinic with the history of passing her due date of parturition. From the clinical signs and reported history of the case, was noticed that, the pregnant goat was suffering from rupture of prepubic tendon, and that may contributes with the delay of parturition. Physical examination and some vital signs were recorded. Ultrasonography has been done to ensure that; the situation of the offspring were normal and they are still a life. **Decision:** was taken after examination which was revealed that, normal parameters of the pregnant doe with no signs of herniation, has been observed, also birth canal was opened about 2-3 figures, all that has engorge us to push the doe to go through normal delivery with no surgical intervention. Supportive treatment has been given, beside oxytocin was intramuscular injected. Finally she gave birth to two healthy kids. **Conclusion:** rupture prepubic tendon is the most worst situation can face the veterinary doctor that it needs an immediate intervention to avoid worst prognosis. Such a case commonly occurs around goat kidding time and that supposed to be an expected in case of pluriparous and multiparous doe due to the weakness of the heavy uterus, besides the traumatic dysfunction of the different supportive ligaments in the pelvic cavity and also tearing of the pubic tendon as well.

Keywords: Anatomy, Doe, Mahali, Rupture, Prepubic Tendon.

### Introduction:

From the anatomical point view of prepubic tendon in most domesticated animal species it is a multi-tendinous in origin; which is formed up by anastomosing tendons of more than one muscles and that make up the ventrocaudal aspect of the abdominal floor. The muscles which involved in this tendon are; pectineus muscles, rectus abdominis and abdominis obliquus muscles, beside the tendons of the cranial parts of the gracilis muscles (Haagen, 2008). Tendons of these muscles are union by strong connective sheath to form what is known prepubic tendon and end to anchor at the pelvic rim cranial to the pubic bone of the pelvic skeleton where the linea Alba and the yellow abdominal tunic inserted as well (Orsini, *et al.*, 2022).

In terms of pathology rupture of the prepubic tendon occurs most commonly in female animal species around the last stage of pregnancy as in a pregnant mare (Schutten, 2016), while it is rarely occurrence in each of either cow as well as ewes (Menzies, 2007); due to the additional support by subpubic sheath to the prepubic tendon (Monteiro, *et al.*, 2018). Queens is also one of the species that might be exposure to the prepubic tendon rupture as reported by (Beittenmiller, *et al.*, 2009), and (Archipow, *et al.*, 2011) in case of pregnant bitch. The cause of rupture such a tendon still unclear yet. Some reports justified that; there is some predisposing factors contributes to present this kind of defect in the tendon of pregnant animals (Monteiro, *et al.*, 2018).

In large animals the rupture of prepubic tendon always was associated with increased weight of the gravid uterus, twins, and hydrops of the fetal membranes, also fetal giants and trauma (Seyrek-Intas, *et al.*, 2011). While in case of small animal specially Pluriparous and multiparous is an extra burden to increase the risk of such a case (Al-Ani, *et al.*, 2016). Rupture of prepubic tendon typically occurs during the last month of gestation, with always poor of prognosis (Hanson, *et al.*, 1986; Purohit, 2012; Raja, *et al.*, 2019; SMITH, *et al.*, 2010; Wilkins, 2015).

Expectations to loss the pregnant female due to evisceration during parturition, internal hemorrhages, and bowel rupture is very high, also the same as new fetus as due to a failure to induce parturition at appropriate time, and take no care to it (Al-Ani, *et al.*, 2016; Oppen, *et al.*, 2001; Wilkins, 2015).

**Case description:**

Early this year of 2022, a *mahali* pregnant doe from a local valuable breed in libya where its age about a 6 years old, and weighting roughly 20 kg, was referred to the clinic of the university's hospital in the veterinary college of Tripoli in order to evaluation the signs of abnormal abdominal distension. **Case**

**History:** last stage pregnant doe, she passed her due date of parturition, and she has had 5 pregnancies before, and she gave birth to triples 3 times with no history of birth complication. **Clinical examination:** pregnant doe has been

showed a clear swelling on left side of the midline, was more pendulous comparing with right side, which was causing difficulty in her walking (Fig 1).

The animal was appearing sort of dehydration, and emaciation, also showed kind of restlessness, and refused to lie down. Respiratory rate 49/mint, heart rate 95/mint, rectal temperature 37.2C. No ruminal sound due to; no demarcation between abdomen and the cranial boarder of the udder, and the pelvis was tilted backward too. Ultrasonography has revealed that; the situation of the twins were normal and they are still a life. From external examination to the genitalia has showed that, vulva was enlarged, relaxed, swollen and slightly edematous. The udder also was fully developed, and teats were enlarged and filled with colostrum. Vaginal examination has revealed that; the external Os of the cervix was slightly relaxed, moist, and about 2-3 figures was opened. Uterus was towed deeply inside the abdomen cavity. All these observations have indicated that; a typical of prepubic tendon rupture, which lead to a sort of dystocia (Fig. 1).

**Decision:** doe has been admitted to the clinic, normal parameters of the pregnant doe was recorded, with no signs of herniation has ensured, and birth canal was opened, beside twins heart rate was almost normal. All that have engorged us to push the doe to go through a normal delivery with no surgical intervention.

A mixture of prescribed medicine have been given. 1000 ml of normal saline was given intravenous three times, in order to reduce the signs of dehydration. Dextrose 1000 ml was given also as a supportive treatment, plus multivitamins such as B complex, and B12 were given as well to help in muscle contractility. Oxytocin was injected with dosage of 40 IU in order to help induction. A gentle massaging has been applied to the cervix in order to get stimulation. A big bandage has been wrapped along around the belly; which played as bra looks like, to reduce the effects of specific gravity and then decrease the damaging might occurs due to straining during and after parturition on the injured prepubic tendon. Three hours later the doe was gave birth to healthy twines by doctor

assistance through pulling them out. Doe was kept under intensive care with her kids, little a while for 40 minutes or so, mom goat was trying to stand and feed her kids. Three days post parturition the doe has left back home after she showed a normal walk around, good appetite, no signs of edema, good rumination and defecation process was good either, beside it took care of her kids perfectly (Fig. 2). Unfortunately, our record missing that; if she could be able back to the sexual cycle again or not; because the owner did not report back the clinical to inform us with the situation.

### **Discussion:**

The clinical importance of prepubic tendon was appear in this case. Although, the importance is varies among animal species; according to the differential anatomical structure of the tendon (Habel, *et al.*, 1992). Large ruminants have additional support to the prepubic tendon which is attached to the pelvis by three roots in the median symphyseal tendon and with two thick lateral roots, attached to the iliopectineal eminences to form triangular shape (Habel, *et al.*, 1992; Orsini, *et al.*, 2022). That is why rupture of the prepubic tendon is rare in pregnant cows in comparison with the mare and less complication (Beittenmiller, *et al.*, 2009; Oppen, *et al.*, 2001). While in case of pregnant ewes, rupture of the prepubic tendon has been mentioned somehow, but with more difficulties where it usually leads to injury of the udder, and that is due to complete loss the attachments of the primary lamellae of the udder with the prepubic tendon (Monteiro, *et al.*, 2018). Also this condition has been seen more frequently in *Shami* does, and that was attributing to number and size of the fetuses in each gestation period that goat might have (Al-Ani, 2016). In terms of the end up of animals after this defect is occurs, one as of many published papers, were recommended that, the animal where was suffering from prepubic tendon rupture, should be culled and prohibited to gets pregnant again, in spite the animal effectively cured (Talebkhan Garoussi, *et al.*, 2021), and that is totally disagree with our case, and that conclusion needs more study, to find out the main cause of this defect , and also know what effected animal was able to get pregnant and give birth or no.

**Conclusion:**

When it comes to the causes of rupture prepubic tendon there is still a lot that remains unknown. Although there are plenty of theories regarding the cause of prepubic tendon rupture, the scientific evidence supporting these theories is frequently lacking. New found insight concerning the anatomical dysfunctions of such a tendon in animal who is suffering from the rupture was probably the beginning of a more concrete scientific understanding of the pathology, right evaluation, and early intervention.

With respect of there is no a specific treatment. Veterinary doctors can evaluate and decide what it should do. Such a case commonly occurs around goat kidding time and that supposed to be an expected specially in case of pluriparous and multiparous does, which is due to general weakness of the heavy uterus, and the traumatic dysfunction of the different supportive ligaments in the anatomical area which extends between abdominal cavity and pelvic cavity. To avoid poor prognosis it needs an immediate intervention to safe life of doe and her kids. In regard to the possibility of the cured animal whether it can gets pregnant or not, an additional scientific study may shed a light on this anatomical defect and it's correlation with future abilities of the animal to be a pregnant.

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**Figure legends:**

**Figure 1:**

*Mahali breed doe with rupture of the prepubic tendon.*



**Figure 2:**

*Two male kids after normal kidding, were in good health sucking milk from their mother.*

