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***Corresponding Author**

Umair Iqbal
E-mail
drumairiqbal@gmail.com

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Surgical Correction of Umbilical Hernia in Non-descript Buffalo Calf-A Case Study

Umair Iqbal^{1*}, Muhammad Mubeen¹, Shahzad Rafiq¹, Tariq Nadeem²

¹Livestock and Dairy Development, Government of Punjab, Pakistan

²Para Veterinary Institute, Karor Lal Eason, Layyah, Pakistan

Abstract

An approximately seven months old male buffalo calf was brought for clinical examination to the civil veterinary hospital, Karampur, Tehsil Mailsi, District Vehari, Punjab, Pakistan with the history of bulge type swelling found at the origin point of the umbilicus. On clinical examination, a bulge type mass having length of 7.6 cm and diameter of 3.2 cm was protruding from umbilicus, which is reducible type. So, it is finally confirmed as umbilical hernia and finally decided to go for herniorrhaphy.



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Introduction

Umbilical hernia is a discontinuation of the abdominal wall at the umbilicus which results in protrusion of abdominal contents into hernial sac due to the formation by the skin and proliferation of the surrounding connective tissue [1]. Abdin-Bey and Ramadan (2001) [2] documented that umbilical hernia diameter range was 8-15cm which could be cranial, caudal, at the center or to one side of the umbilicus. Umbilical hernia was dominated by an autosomal gene and may be by birth or acquired [3, 4]. In some cases, umbilical hernia results in alteration of pathophysiological functions of the intestines which in some cases results in mortality [5]. The present study aims for documentation of successful surgical correction of umbilical hernia in a buffalo calf and its successful surgical correction.

Material and Method

An approximately 7 months old month male buffalo calf was brought to the civil veterinary hospital Karampur, Tehsil Mailsi, District Vehari, Punjab. The calf has presence of bulge type swelling found at the ventral abdomen almost at the point of the origin of the umbilicus (Figure A). Further consideration of biomedical measurement reveals that the bulge type mass is 7.6 cm in length and 3.2 cm in diameter and increases gradually in the circumscribed area of the umbilicus. Water intake was normal while variation in feed intake was observed from the last two months. Although, temperature, pulse and respiration are in normal limits. Manual manipulation resulted in circular bulge like swelling which in actuality is a circular hernial ring accompanied by umbilicus and is reducible type. So, aspiration to differentiate access, tumor, cyst and hematoma is not done and finally decided to go for herniography.

Surgical Procedure

Surgical procedure was done in lateral recumbency and xylazine hydrochloride (Xylaz Farevet Pvt Ltd) was injected @ 0.01mg/kg by intramuscular route after aseptic measures of surgical sites. Than ring block local anesthesia by infiltrating lignocaine hydrochloride 2% solution around the circumscribed site of incision. After proper analgesis is attained, an elliptical incision was made on the bulge avoiding the rupture of umbilicus and surrounding blood vessels [6]. As a result, muscles and peritoneum were separated. While sheath of the rectus abdominus

muscle is visible in the form of white sheath after the dissection of the subcutaneous tissue. After picking of the body wall, a small incision is made on the midline in order to ensure any attachment of the underlying body wall. Intestines are now visible as hernial contents in the abdominal cavity (Fig. 1B) without adhesions formation. Hernial sac and extra skin was removed. Thus, hernia ring closure by the overlapping mattress sutures (Fig. 1C). The subcutaneous tissue is closed with Chromic Catgut 2/0 (Metric 3.5) followed by the skin closure by Glysilik 2/5 (Metric) both in a simple continuous pattern (Fig. 1D).

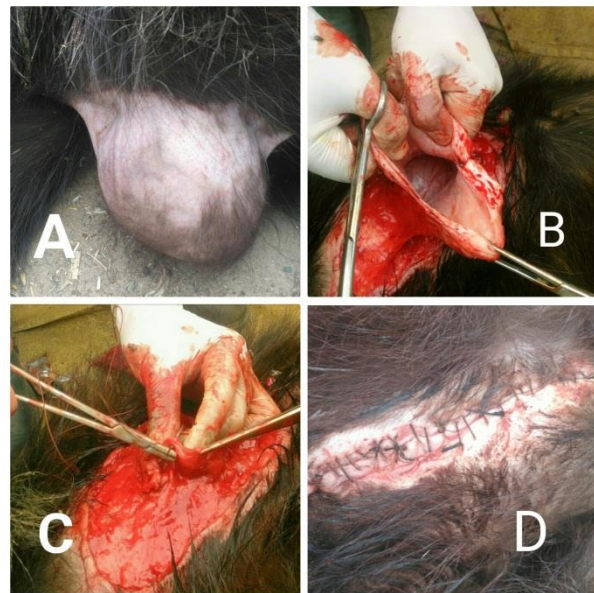


Fig. 1: (A) Bulge type swelling at the point of origin of Umbilicus, (B) Visibility of intestine as hernial contents, (C) Closure of hernial ring, (D) Surgically corrected Umbilical Hernia.

Discussion

Opening of the umbilical ring and size of the hernia contents are the two main factors on which type of umbilical hernia is evaluated. In correlation to above two factors if hernia contents cannot reduce timely it results in incarcerated hernia which is a life-threatening condition just like voluminous hernia [7]. Moreover, it may be hereditary under the influence of dominant character or may be environmental [8]. In detailed consideration small hernias which are less than 5cm or two fingers width have a greater chance to resolve without surgical intervention. Clamping, counter irritation, safety pins, trans fixation sutures

and commercially available rubber bands [4] are successful in this regard if follow above criteria. In contrast, hernias greater than 5cm or two fingers width than surgical correction is required [8] which is in accordance with the present case study. In context to large animals, umbilical abscess must be differentiated from umbilical hernia if it is of reduce able type [9]. Al-Sobayil and Ahmed (2007) [4] and Abdin-Bey and Ramadan (2001) [2] reported use of horizontal mattress and three layers suturing in umbilical hernia surgical management was also in accordance with the present study. Herniorrhaphy approach has remarkable success as reported [2, 4] but less reported in buffaloes and goats. In the present case study surgical correction was carried out which results in timely recovery of the buffalo calf.

Conclusion

Umbilical hernia was corrected successfully with herniorrhaphy in non-descript buffalo calf as it is best possible documented solution. Delay in surgical

correction and inappropriate postoperative care results in complications which may ultimately resulted in death of animal, so it is a matter of timely surgical correction after proper diagnosis.

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