Ministry of Higher Education And Scientific Research University Of AL-Qadisiyah Collage of Veterinary Medicine



# Treatment of Hernia in Cattle

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# Summary

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This study aimed to highlight on hernial types that defected animals specially in cattle, the ways of diagnosis and treatment by using different techniques either the highlight on advantage and disadvantage of these techniques.

The researches confirm that the umbilical hernia usually accrue in calves due to failure to closed of the umbilical cord, while ventral hernia are usually present in cattle due to trauma, heavy weight, either the researchers confirm that outward hernia was easy to diagnoses by case history inspection and palpation. There are several technique to treated the hernia, surgical or non-surgical depending on the size and the type of hernia. In case of Surgical techniques either there are two type open and closed surgical operation , in simple and small hernia in size they treated by suturing the edges of ring by absorbable suture (Hernioraphy), but in case large hernia must be used mesh to support the muscle in technique named Hernioplasty. Mesh may cause irritation in it site and causes post-operative pain and delay the time of healing so must be covert by special material to make barrier between the mesh and muscle and lubricated the site hernia.

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#### **Chapter One Introduction**

## Introduction

1

Hernia is a protrusion of the contents of a body cavity through a weak spot of the body wall. This may accrue by accident or due to normal anatomical opening, which does not completely fulfill its physiological function (Sutradhar, et.al. 2009).

Anatomically Hernia consists of three parts, Hernial Ring, Hernial Sac and Contents. (Amresh, 2009). In cattle's most common site of a hernia is the abdominal wall which consists of the muscles and ligaments, which acted as shield and the natural function of it is carrying the abdominal contents mainly the intestines. When any weakness extended in the abdominal wall, the shield loses his job and form a hole which called hernial ring, then part of the viscera of the abdominal cavity pass through the hole and then bulging which is visible on the skin as a hernia( Singh, *et.al.*2014). The hernia either occur when there is a natural weakness in the inguinal canal and femoral or the umbilicus area caused widening in these canal and passing of viscera through it (Kumar, *et.al.*,2013). A primary diagnosis was made from the history and by palpation of the hernial region. Diagnosis of the cases, however, was confirmed by exploratory puncture of the swelling and demonstration of intestinal contents. (Salim, *et.al.*2015).

There are several way to surgical treatment of hernia which depended the size of hernial ring ant the site, primary repair (Hernioraphy) a surgical repair of simple hernia done with sutures placed in a straight line in the abdomen, mesh repair (Hernioplasty) surgical repair, of large and complex hernia by using networks and may be using a laparoscope(Demirkiran *et. al.*, 2003).and complex abdominal wall and hernia repair uses a combination of primary and mesh techniques. (Whitfield-Cargile, *et.al.*2011). **Chapter One Introduction** 

#### 2 **The aim of the study:**

1- Performing the type of hernia in cattle.

2- To highlight on the way of diagnosis.

3- To confirm that there are several way to treated the hernia, surgical and non-surgical.

4- Investigate which way of surgical treated are suitable to treated the hernia depending on the site and size.

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# 2. Hernia:

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Hernia is a protrusion of the contents of a body cavity through a weak spot of the body wall. This may accrue by accident or due to normal anatomical opening, which does not completely fulfill its physiological function. So a part of an internal organ bulges through a weakened muscle, tissue, or membrane that would normally contain it. Hernias are caused by a combination of muscle weakness and strain (Sutradhar, *et.al.* 2009).

#### Fig. (1): General shape of hernia

#### 2.1. Anatomy of Hernia:

Hernia consists of three parts:

1-Hernial Ring: it's a rupture in muscles of the abdominal wall such as ventral hernia or widening of natural orifices such as the umbilicus, or may be a natural passageway such as the inguinal canal. Chapter Two Literatures Review

**2-Hernial Sac:** a fold of skin surrounding contents of hernia with muscle fibers and fibrous tissue in addition and peritoneum may be founded beneath the skin. In the cases of abdominal hernia the sac consists of three parts the neck, that part closest to the ring and the bottom a lower part of the sac and the body that is between them.

**3-Contents:** the contents of the hernia differ depending on the site, may be part of the intestine called Enterocele or the presence of omentum is called Omentocele. In a few cases, content is part of the stomach is called Gastrocele or bladder Vesicocele. In rare cases, the content is the liver or spleen (Amresh, 2009).

In cattle's most common site of a hernia is the abdominal wall which consists of the muscles and ligaments, which acted as shield and the natural function of it is carrying the abdominal contents mainly the intestines. When any weakness extended in the abdominal wall, the shield loses his job and form a hole which called hernial ring, then part of the viscera of the abdominal cavity pass through the hole and then bulging which is visible on the skin as a hernia(Singh, *et.al.*2014). The hernia either occur when there is a natural weakness in the inguinal canal and femoral or the umbilicus area caused widening in these canal and passing of viscera through it (Kumar, *et.al.*,2013).

#### 2.2. The Types of Hernia:

**1- Reducible Hernia**: In this type can be manually or automatically return the hernial contents into the abdominal cavity.

**2- Irreducible Hernia**: In this type the hernial contents can't be return into the abdominal cavity. So the complication of this type:

**A-Strangulation**: In this type pressure of the contents of the hernia leads to cutting blood supplying and leads to Ischemia in the part of viscera that entering through the hernial ring and then necrosis may happening then Gangrene may **Chapter Two Literatures Review** 

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accrue later and who becomes a mortal during 48-72 hours if there is no surgical emergency.

**B-Obstruction**. in this type the ingesta be unable to transit through the canal of digestive system due to blockage which leads to the absence of defecation, which requires emergency surgical interference.

## **2.3.** Types of Hernia Depending on its Location

#### 2.3.1. Umbilical Hernia:

Umbilical hernia have been described as heredity in all species of animals, in cattle most of them are small, so the defected animals should not be used as breeding animals. They most commonly occur in Holstein-Friesian cattle, with heifer calves being at greater risk than bull calves. Congenital umbilical hernias result from closure of the peritoneal ring but an incomplete closure of the body wall around the umbilicus in utero leading to apposition of the peritoneum to fascia and skin (Roberts, 2004). Umbilical hernias in calves commonly present to veterinary clinics, which are normally secondary to failure of the normal closure of the umbilical ring, and which result in the protrusion of abdominal contents into the overlying subcutaneous.either may happens when cutting the umbilical cord near the body or when animals chewed the umbilical cord, or may be happens due to contaminated handling with the umbilical cord during caesarean section, leading to Omphalitis and weaknesses making them convertible to hernia (Kumar, et.al.2013). One of the sign of this type is swelling in the umbilical region leads to loss of normal shape and mostly reducible, in some cases became small in size and disappear with time. or may become Strangulated and causes severe pain to animal. Either signs of colic, and increased local pain associated with palpation are strongly indicative. Strangulated small intestine has an edematous wall with decreased motility, whereas large intestine appears as an out pouching into the hernia sac. Rarely eversion of the bladder through the hernia defect has been reported. Chapter

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#### Umbilical Hernias can be divided into:

1. Uncomplicated hernias are those whose contents can be easily pushed back into the abdomen.

2. Strangulated hernias when contents cannot be easily pushed back into the abdomen, usually firm and may be painful to touch. The animal may show signs of colic and/or bloat and may die from the condition.

3. Umbilical hernias with an associated abscess comprise two distinct parts: the abscess component is a firm lump adhered to the skin and the hernia is a softer swelling above this. Hernias with associated abscesses usually begin as an infected umbilicus alone (navel ill)(Westmore, 2014).

#### 2.3.2. Inguinal Hernia:

Inguinal hernias are heredity or acquired and they have not been described in the cow or ewe(Roberts, 2004). which is result due to drooping abdominal viscera through a defect in the inguinal channel when animal be aged or extreme stress. in this type of hernia part of the bowel may slip through the inner ring to the inguinal canal. It is common in males, as well as we can use X-rays to diagnose(Osman *et al.*, 2006; Maurice and Susan, 2005).

#### 2.3.3. Scrotal Hernia:

The hernia marks as extension of the inguinal hernia when viscera reaching to scrotum throw the internal and external Inguinal canal, and may be unilateral or bilateral. In some cases, a common occurrence in male dogs as well as horses and bulls and rarely infects sheep and goats. The causes of this type of hernia be genetic or acquired, so it's best to hold castration process Castration of defected animals. swelling extends from the area inguinal to the top of the scrotum , pain. so must be differentiated from injuries testis such as tumors and abscesses bloody tumor. In most cases, scrotal hernia is acquired, usually caused by a trauma such as a horn injury in **Chapter Two Literatures Review** 

group-housed males. the heritability of scrotal hernia has not yet fully understood. Nevertheless, most experts agree that an enlarged inguinal ring is a hereditary failure, so an affected should not be used in breeding(Roberts,1988). In addition to diagnosis of scrotal hernia in sheep and goats ,physical examination, plain or contrast radiography and trans-scrotal ultrasonography can be used to this purpose (Abdin-Bey and Ramadan, 2001).

#### 2.3.4. Femoral Hernia:.

Drooping part of the intestine throw the passing region of the femoral vein and artery from the abdomen to the femora, and the fact that the area where gets hernia. This canal called the Femoral canal. Diagnosis is this hernia by making the animal standing on hind limbs and feel the bulging ventrally to Inguinal ligament and laterally to Pelvic brim (Kumar, *et.al.*,2013).

## 2.3.5. Incisional Hernia:

which occur when previous abdominal surgery has weakened the abdominal wall or an infection at the surgical site causes a breakdown of the wound closure. The skin is sometimes (that covers the hernia) very light, where you can see the movement appendicitis Peristalsis movements down from the gut, it has been going on there partial intestinal blockage or twisting Strangulation in a specific area for a small scar Small scar )( Bower *et al.*, 2004(.So septic wounds after the operation, which is the most dangerous predisposing factor and metabolic disorders such as weight gain and kidney deficit, diabetes, lack of protein or vitamin C and the use of some treatments, such as steroids and chemotherapy in addition to the increase in intra-abdominal pressure and Reform manner tensile accompanied by a high percentage hernia (Yahchouchy *et al.*, 2003; klinge *et al.*, 2005). **Chapter Two Literatures Review** 

#### 2.3.6. Perineal Hernia:

This type of hernia is different from other types that the contents of the hernia doesn't covered by peritoneum, and partly due to the weakness of muscle of perineum making it easier to droop some viscera of the abdominal and pelvic cavity and the causes are also hormonal disorders, prostate disease and chronic constipation. And one of the most recurrent hernia signs of constipation, age Tenesmus, stranguri Usually in Perineal hernia animal have abdominal swelling and brutal space director and in some cases bilateral in perineal area is swollen. most cases of this type of hernias that infect animals deal with it as an emergency cases , but when animal could not urinate , must be dealt with as an emergency(Padilla, *et al.*, 1999). Perineal hernia is an uncommon phenomenon in cattle. In some cases The urinary bladder was herniated into the vaginal folds and formed a Perineal hernia (Shridhar,2011). Contrast studies, either positive or negative, may be helpful and it may have an abdominal shape in aperineal hernia(Kealy, *et.al.*2011).

# Fig. (2): Show the Perineal hernia. Chapter Two Literatures Review

#### 2.3.7. Ventral Hernia:

A ventral hernia occurs when part of the intestines protrude through the abdominal wall. Ventral hernia occurs generally as a result of external forces or trauma to abdominal wall, automobile accident, weakening of the abdominal musculature or rupture of preputic tendon It is commonly seen along the costal arch, high or low in the flank, between the last few ribs or in the ventral abdominal wall near the mid line (Singh, et.al.2014). One Of the clearest hernia abdominal signs prominently swelling under the skin and the contents of the ventral hernia remain in the abdomen toward the gravity or stretch the pleural cavity if the diaphragm is integrated, and in this case the external swelling may not be clear. The contents of the hernia is not adequate with the size of the measurement ring has drooped a large part of the intestine through a small opening of the abdominal wall, or may be an opening in the abdominal wall, while the highest content travel beneath the abdominal skin, the diagnoses of the hernia make through the contents of the hernia and hernia ring be clear or palpated the viscera under the skin, but the diagnosis of Irreducible hernias defaulted and needed to use the X-ray to reflect the lack of abdominal wall continuity, and sometimes the loss of a strip of the abdominal wall or change the natural place organ(Lund et. al., 2004; Abdin-bey and Ramadan, 2001).

Unilateral ventral hernias in large animals commonly in ruminants on the right side of the abdominal floor and occur infrequently in advanced pregnancy in cow, sheep, and goats, these hernias are usually due to trauma, the increase weight of the gravid uterus and fetus, and possibly other change, weaken the abdominal floor, characterized by a unilateral ventral sagging of the abdominal floor. Calving may be difficult because of the inability of the abdominal muscles to contract equally and strongly and force the fetus through the birth canal (Roberts, 2004). **Chapter Two Literatures Review** 

#### 2.3.8. Diaphragmatic Hernia:

may be congenital or acquired. There appear to be few records of congenital defects in horses. Diaphragmatic hernias are not seen very often and it must be assumed that such spontaneous defects are extremely rare in the horse. Accidental rupture usually occurs from abdominal crushing, following blunt trauma or penetrating injuries to the abdomen and chest. Occasionally the clinical findings at presentation include lethargy, respiratory difficulties and exercise intolerance. Diaphragmatic hernia is a rare condition in cattle and although clinical symptoms can be variable, signs of anterior stenosis predominate. (De Schutter, *et.al.*,2011) **Fig. (3): Diaphragmatic hernia.** 

The most signs of Diaphragmatic hernia were dullness, depression, tympany and scanty feces. Reticulum of all animal with diaphragmatic hernia was detected at the level of 4th/5th intercostal space by ultrasonography. the reliability of ultrasonography in diagnosis of diaphragmatic hernia was more reliable to detect the relation of reticulum to adjacent thoracic organs then, observe its motility inside the thoracic cavity (Abdelaal, 2014). While thoracocentesis is easy technique to be

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performed, cost efficient, and may offered as an alternative way for diagnosis of diaphragmatic hernia in cattle and buffaloes specially in field situation(Misk, 2015(.

In addition, history of previous trauma, natural covering, dystocia or severe exercise often precede the presentation of an animal with a diaphragmatic hernia, the only presented clinical signs with herniated small intestines, described in some previous case reports were rest and exercise intolerance. Thoracic laparoscopy can also provide additional information or could be used as a therapeutic tool depending on the size and location of the lesion. Many diaphragmatic hernias are diagnosed by the way at necropsy or slaughter (Sabev and Kanakov, 2009).

#### 2.3.9. Epigastric Hernia.

This type of hernia mostly accrue at the linea alba region between Xyphoid and umbilicus, happening due to facial defect. also appear at different age mostly with aggressive activity, chronic cough. The identification of the ligament trees and its accompanying vessel at its facial defect supports the vascular lacunae hypothesis. However, to further our understanding, biopsy of the linea alba in patients with epigastric hernias is indicated (Lang and Lau, 2002).

#### 2.4. Diagnosis of Hernia:

A primary diagnosis was made from the history and by palpation of the hernial region. Diagnosis of the cases, however, was confirmed by exploratory puncture of the swelling and demonstration of intestinal contents. Detection of hernial ring with the index ringer also aided diagnosis. Either the reducibility of continent after placed animal in dorsal recumbency and the contents were pushed back into the abdomen. In case of reducible hernia, the contents went back to the abdominal cavity and the hernial ring became evident(Salim, et.al.2015). Exploratory laparotomy used to diagnosis the defect, X ray used differentiates abdominal wall hernias from fibrino-Chapter Two

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cystic, abscess, and inflammatory swellings in bovine animals (Muggli, *et.al.*2014; Kumar, *et.al.*2014).

## 2.5. Treatment of Hernia:

## **2.6.** Type of surgical treatment of hernia

1- A primary repair (Hernioraphy) a surgical repair of simple hernia done with sutures placed in a straight line in the abdomen.

2- A mesh repair (Hernioplasty) surgical repair, of large and complex hernia by using networks and may be using a laparoscope(Demirkiran *et. al.*, 2003).

3- A complex abdominal wall and hernia repair uses a combination of primary and mesh techniques. Other types of complex repairs can include use of tissue expansion, free tissue transfer, and even abdominal wall transplantation. Surgical time, duration of hospitalization, and postoperative complications may be reduced by using this technique of primary repair and avoiding mesh implantation (Whitfield-Cargile, *et.al.*2011).

#### 2.7. Surgical Treatment of Hernia:

#### 2.7.1. Pre-Operative Care:

#### **Control and Anesthesia:**

1- the animals food intake should be reduced for 4 to 5 days and completely stopped for 24 hours prior to surgery.

2- the animal should be controlled in dorsal oblique recumbency in case of external hernia like ventral and umbilical, after sedation or tranquilization. Local anesthetic is infiltrated at the site of incision and at the hernial ring or operation can be performed under general anesthesia. The effect of sedatives and analgesics on heart rate, respiration rate and rectal temperature Therefore, in case make a Hernioraphy, xylazine hydrochloride can be used as a better sedative while 0.5 % bupivacaine hydrochloride can be used as a local analgesic for longer duration of action (Hendrickson And Suzanne 2005; Sarker, *et.al.* 2012). **Chapter Two Literatures Review** 

#### 2.7.2. Surgical Technique :

This technique of repair of umbilical hernia is same as for ventral hernia 1- Two elliptical incisions are made through the skin on each side of the sac and are joined at each end, the hernia ring is adequately exposed.

2- The patch of skin between the incisions is bluntly dissected from the peritoneal sac and discarded .

3- The edges of the skin are reflected from the sac by blunt dissection.

4- the peritoneal sac is carefully dissected from the underlying tissue . care should be taken to avoid severing the sac and exposing the peritoneal cavity.

5- the hernia is reduced by pushing the sac into the peritoneal cavity.

6- the hernia ring is closed by overlapping sutures using chromic catgut size 3 or 4 with umbilical tape in case of large ring . the edge of the ring along with fascia are fixed to the body wall with a simple continuous suture using chromic catgut size 2 or 3.

7- the skin edge are suturing by interrupted sutures using non absorbable suture material.

#### 2.7.3. Post-Operative Care :

1- systemic antibiotic should be administered for 3 to 5 days.

2- skin sutures should be removed 10 to 14 days after surgery or after complete healing.

3- the animal should be fed on soft food for about 2 weeks after the operation to minimize pressure on the site of incision (Amresh, 2009).

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#### 2.8. Using of Mesh:

Mesh is used in some complex abdominal surgeries if there is concern that the additional tension created along the incision of the abdominal muscle will prevent it from healing without complications. The mesh is placed beneath the muscle, bigger than the hernial opening. The body will create tissue that will adhere to the mesh, combining the mesh with the abdominal wall. This new growth tissue keeps the mesh in place. At the time of surgery the mesh may or may not be sutured in place. Although, use of non-absorbable synthetic mesh material to achieve a tension free closure of these abdominal wall defects is the most widely used reconstruction technique. Nylon mesh may be used for the repair of large abdominal hernias with adequate strength in adult bovines as an economic alternative to the costly prosthetic meshes(Singh, et.al.2014). The less traumatic use of surgical adhesives rather than sutures for mesh fixation in hernia repair has started to gain popularity because they induce less tissue damage and less postoperative pain(Pascual, et.al. 2017). The gel-like coverage of a mesh with a water-soluble film may delay the immediate surface adhesion of the mesh to the tissue, which may allow greater freedom and ease in mesh placement for laparoscopic surgeons(Nevler, et.al 2014).

Additionally, bovine fetal collagen was found to effectively support component repairs and undergo an assimilation process including rapid revascularization and repopulation with host cells followed by gradual extracellular matrix remodeling (Cornwell, 2016).

#### 2.9. Types of Mesh:

1- Synthetic Mesh: which is made of nylon or gore-tex.

2- **Biologic Mesh:** which used to treated of complex abdominal wall hernias. They come from the hard skin of human cadavers and from porcine (pig) or bovine (cow) sources. The advantage of biologic meshes is that they are more resistant to

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infection and they promote tissue growth for healing and closing the hernia defect.

#### 2.10. Treated of Umbilical Hernias:

Umbilical hernias, usually small in size and easily reducible when uncomplicated and Smaller hernias may spontaneously resolve(Roberts, 2004). Surgical umbilical hernia repair indicated for hernias where the diameter of the ring more than 3 cm. A number of different methods of repair have been used, using open reduction by increasing body wall overlap, considered to be a result of increased tension causing vascular compromise at the surgical site, while Simple apposition was considered faster to perform. Large defects (greater than 10 cm) may require polypropylene mesh placement instead of direct appositional closure, as this is a more complicated procedure with increased possibility of postoperative seroma and hematoma formation. Primary postoperative management should include a abdomen bandage until incisional healing is done. Either better healing and less complication were found in calves treated with the closed method of Hernioraphy and its a suitable and satisfactory choice of surgical treatment for the reducible umbilical hernia in bovine calves provided the hernial ring is narrow (usually below 3 cm in diameter). In cattle, most people agree to do an open herniorrhaphy because the chance of having an infected structure or adhesion in the hernial sac is higher than in other species. Also, resection of the hernial ring provides better healing of the abdominal incision. If environment is highly contaminated and the hernial sac is clear of infection and adhesion, a closed repair is indicated but the hernia ring should be scarified or refreshed with a scalpel blade. (Kumar, et.al., 2013; Morresey, 2014). Both the absorbable and non-absorbable suture materials were used to correct the umbilical herniorrhaphy. Absorbable sutures were used for comparatively young calves, whereas silk was used with older calves to increase protection (Sutradhar, et.al.2009). Chapter Two

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#### Fig. (4):Treated of Umbilical hernias by Hernioraphy way by mesh. 2.11. Treatment of Ventral Hernia:

Abdominal hernias have been documented to have good surgical wound healing. but in some complicated cases presents with poor prognosis. like adhesions, intestinal incarceration. Diffuse fibrino-purulent peritonitis associated with ventral abdominal hernia in some cases. The hernial cases may be occurred due to multiple causes began by a traumatic injury on ventral abdominal wall, which led to the development of an abscess. These combined with exciting intra-abdominal pressure associated with parturition caused herniation. The contents of the abscess may have dripped into peritoneal cavity and causes the fibrino-purulent peritonitis which associated with ventral abdominal hernia can be fatal even with proper patient stabilization(Kimeli, *et.al.* 2014).

Adhesions after Laparoscopic Ventral Hernia Repair (LVHR) is a common phenomenon, the result from a trauma of surgery and a reaction to the mesh or fixation devices. No technique or device completely prevents the formation of adhesions. Direct contact of visceral organs with Polypropylene (PP) and polyester is followed by adhesions to the mesh, leading to risk of bowel injury and followed by intestinal fistula. This risk is decreased with use of films or textile meshes made of

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polyvinyl di fluoride (PVDF), Polypropylene, or polyester, but with an additional coating function of another material, such as titanium, collagen, cellulose, hyaluronic acid, or polydioxanon. Any film barrier covering a textile will initiate a tissue response similar to that of the pure film like device with encapsulation of the entire prosthesis. Because any damage to peritoneum heals within days, a temporary protection of the polymer surface should be sufficient. However, whether this provides a sufficient protection depends to the textile material, and some require a permanent barrier(Bittner, *et.al.* 2014; Gurrado, *et.al.* 2015).

#### 2.12. Treatment of Inguinal Hernias:

Inguinal hernias can repair by restoration the base of inguinal canal, this technique is difficult and being more inclined to recurrence, as well as the use of networks therapy is widely (Osman et. al. 2006 (. large vaginal rings are considered at risk for inguinal herniation. To treated this defect, laparoscopic techniques, closed sterile castration has been used when the animal had no reproductive value or in case of testicular compromise. However, even after hand-sutured closure of the vaginal tunic, inguinal herniation may recur the animal(Mendoza, et.al. 2010). Recurrence of inguinal hernia in case of very large vaginal rings may simply be prevented by closure of the vaginal tunic by staples during castration by inguinal approach. This method provides a good resistance to internal pressure, appears to be safe, fast and easy to perform and may therefore be an interesting alternative to laparoscopic techniques when castration is considered (Hendrickson And Suzanne, 2005; Salciccia, et.al.2014) Scrotal surgery is common in veterinary practice. Many techniques are available for commonly performed surgeries, and most can be easily in private practice and in the field. Procedures are described for surgical and nonsurgical castration, unilateral castration, inguinal

herniorrhaphy(Ewoldt, 2008). Chapter Two Literatures Review

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#### 2.13. Treatment of Scrotal Hernia:

Surgical repair of scrotal hernia provides satisfactory treatment (Roberts, 1988; AL-Sobayil and Ahmed, 2007), with good, uncomplicated healing (AL-Sobayil and Ahmed, 2007). Unilateral orchiectomy of an affected testicle is recommended for the preservation of the reproductive function of the contralateral non-affected testicle (AL-Sobayil and Ahmed, 2007), as well as for the prevention of re herniation or seroma formation. However, an affected testicle was successfully restored after the surgical repair of a scrotal hernia without orchiectomy in one male lamb. Postoperative care should include careful monitoring by contrast radiography (Radišić, *et.al.* 2010).

# Conclusions

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The conclusions of this study discovered that:

1- Umbilical hernias in calves commonly present to veterinary clinics due to failure to closed of the umbilical cord , while ventral hernia are commonly present in cattle due to trauma, heavy weight .

2- Hernioraphy technique used to treat simple hernia done with sutures placed in a straight line in the abdomen. while mesh repair (Hernioplasty) technique used to treat a large and complex hernia by using networks and may be using a laparoscope.

3- Biologic mesh more suitable than Synthetic mesh for Hernioplasty in cattle. And the advantage of biologic meshes is that they are more resistant to infection and they promote tissue growth for healing and closing the hernia defect.

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