

**STRANGULATED OVARIAN INGUINAL HERNIA IN A FEMALE INFANT - CASE REPORT**

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**Abstract**

A three months old female presented with irreducible right groin swelling diagnosed as strangulated inguinal hernia. Doppler sonography confirmed the diagnosis. On exploration the ovary found gangrenous and oophorectomy performed.

**Keywords:** Inguinal hernia, ovary, strangulation.

**Introduction**

Inguinal hernia is a common surgical condition in children with incidence of 1%–2% in mature infants which increase to 30% in premature infants. Most serious complication is incarcerated hernia as these hernias may contains loop of the intestine, ovary, undescended testicles, appendix or urinary bladder. There is a risk of incarceration ranges from 3% to 16%.<sup>1,2</sup>

The operation can be postponed for newborns, but it must be ensured that the hernia is not strangulated. Recording a treated case proves that the hernia that contains an ovary in female children is an emergency case that must be handle with the necessary speed to save the ovary.

**Case description**

A 3 month-old female was admitted to female surgical ward due to recently painful enlarging lump on the upper right thigh one day earlier to admission, her mother said that the bulge had been there since she was born and appeared intermittently. There was no other complaint, no history of trauma and the patient was otherwise in good health.

The patient has no congenital anomalies or previous hospital admission. She had been born by normal vaginal delivery without complications, she took no medications and follow her vaccination schedule.

On physical examination, the patient appeared in

good health with normal vital signs (temperature 36.7°C, pulse 140 beats/min, respiratory rate 38 breaths/min and oxygen saturation 98% on room air). Regional examination of head and neck, chest and cardiac were normal.

The abdomen was soft, non-tender with no organomegaly. A discrete mass was seen over the patient's right inguinal area (Figure 1). The patient screamed when the mass was palpated it was firm (1.5 × 1.5 cm) in diameter non reducible. Ultrasonography was requested to confirm the diagnosis of incarcerated inguinal hernia.

Sonographic examination showed irreducible right inguinal hernia containing the right ovary with neck of hernia 1.0 cm in diameter, no blood flow can be seen at Doppler scan (Figure 2)

The patient was admitted to the surgical ward with preparation for open surgery. At the operation, the twisted ovarian tubes with three turns was obvious (Figure 3) and the herniated right ovary was black and gangrenous (Figure 4) so oophorectomy was performed (Figure 5) and the histopathological study confirmed the presence of hemorrhagic necrosis of the excised ovary.

As the parents declined contralateral exploration they claimed they didn't noticed any abnormality in the other said so it was strongly emphasized that a doctor should be consulted when noticing any swelling in left groin. Patient recovered smoothly rapidly and discharged next day.



Figure 1 (Right inguinal hernia)

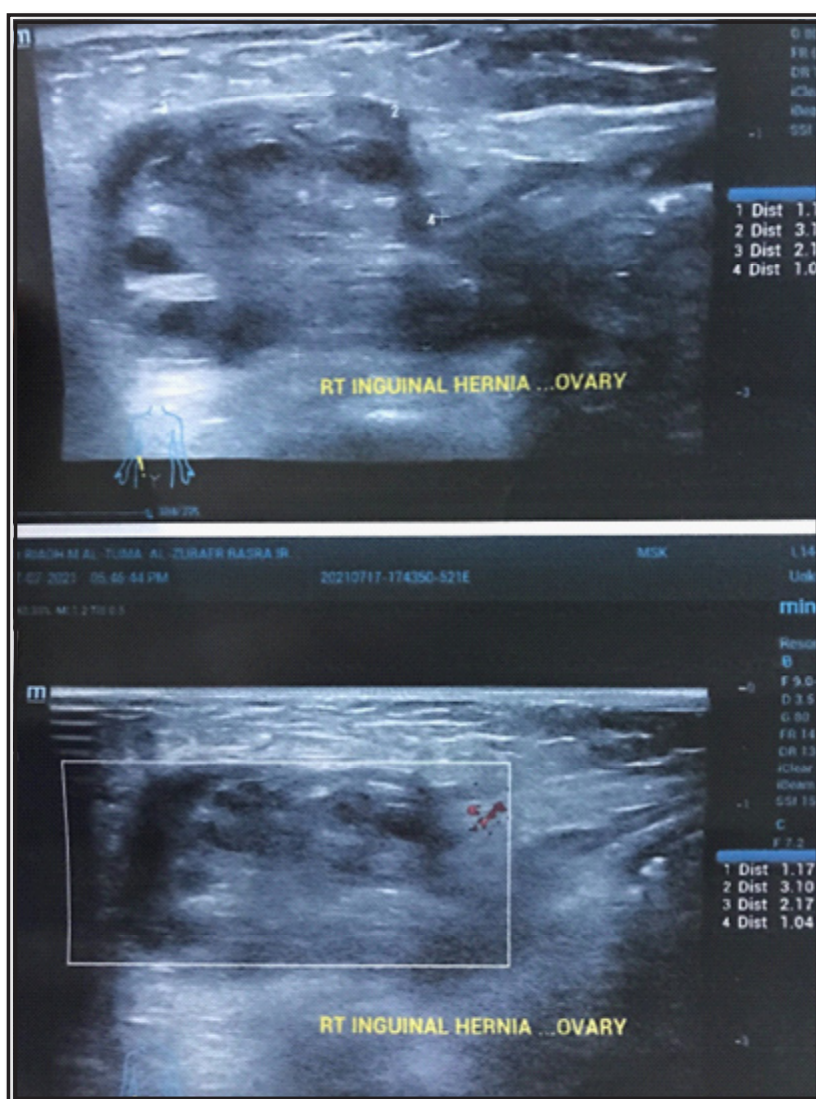
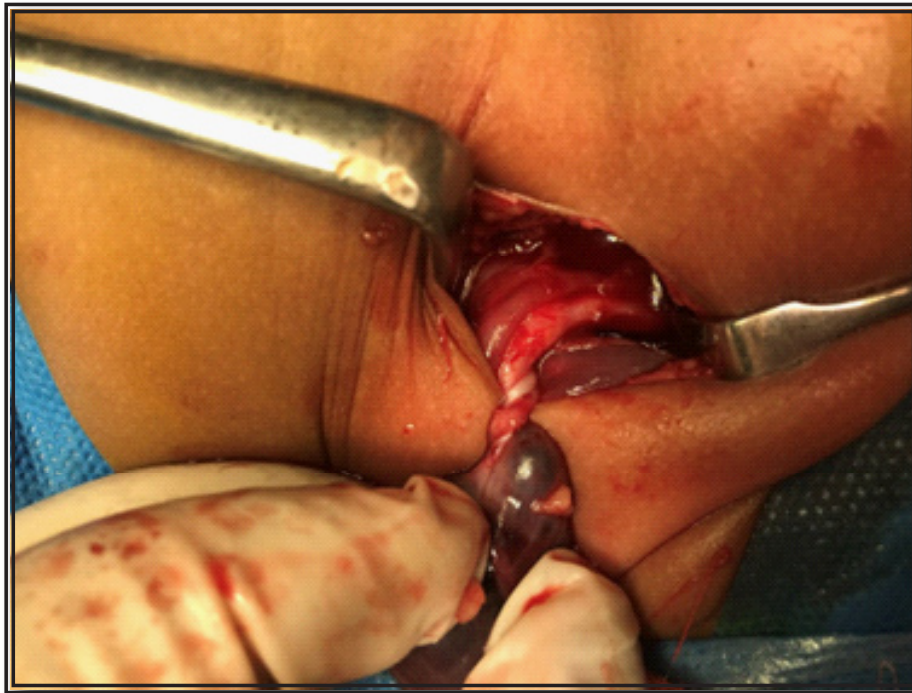
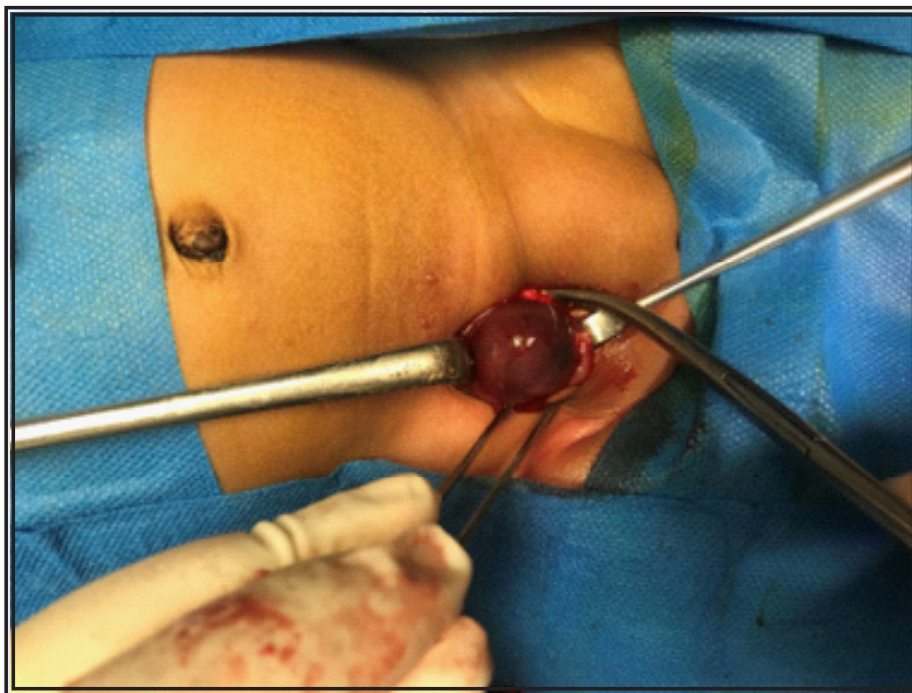


Figure 2

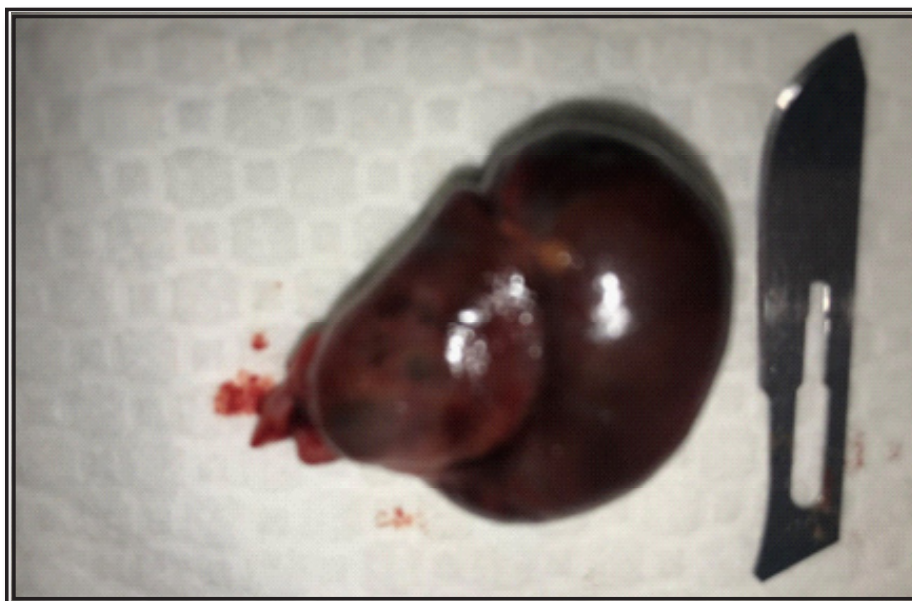
A. Sonographic picture of R ovary.  
B. Doppler examination



**Figure 3** (Twisted ovarian tubes)



**Figure 4** (Gangrenous ovary)



**Figure 5** (Excised ovary)

## Discussion

Although there is a long list of differential diagnosis of groin masses in children, inguinal hernias remain the most common cause<sup>3</sup>.

Various studies have shown diverse incidence of ovarian herniation and ovarian strangulation and reported the incidence to be 15–31% and 23–3% respectively<sup>4,5,6</sup>. Approximately the chance of strangulation in herniated ovary is ranging from 9.9 %<sup>4,5,6</sup> to 43%<sup>7</sup>. The usual presentation, as in this case, is recurrent bulging in the groin mainly visible during crying or straining which rise the intraabdominal pressure.

Despite the fact that herniated ovary can be palpated as movable mass, it is better to use ultrasound and color Doppler ultrasound which provides the essential information regarding the state of blood supply of the ovary and whether ischemia has occurred or not<sup>7</sup>.

It's expected that torsion occurred due to the extra motility of the ovary in the female child<sup>8</sup>. The danger of torsion is increased when the fallopian tubes are longer than usual as the ovaries become more mobile and the ovarian size is greater in comparison to its tubes<sup>9</sup>. This arrangement may mimics the "bellclapper" deformity well-described in the event of spontaneous testicular torsion<sup>10</sup>.

Torsion will press on the venous side initially than arterial supply diminished and eventually ischemia and gangrene developed<sup>11</sup>.

In managing the incarcerated ovary, the agreement is as long as there is no evidence of vascular

occlusion than the child can be treated as an elective case and usually no vascular occlusion seen in the herniated ovary<sup>12</sup>, but this view has been challenged by many pediatric surgeons. The decision of treating the herniated ovary is influenced by its condition whether reducible or strangulated.

Once strangulation recognized, urgent surgical intervention is required because of the more rapid progression to strangulation and gangrene<sup>13</sup>.

There is controversy about how to deal with the residual ovary due to reported cases of residual ovarian torsion, and it is believed that children who have lost one of the ovaries, herniotomy on contralateral side will decrease such injury and must be the usual policy<sup>14</sup>.

## Conclusion

It must be appreciated that inguinal hernia containing ovary in female carry a significant risk of torsion and strangulation and intervention should be offered as soon as possible.

## Acknowledgements

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## Authership & conflict of interest

This is to verify authership of this article and there is no conflict of interest in any way.

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