

## Demonstration Rupture of Ovarian Cyst by Magnetic Resonance Imaging (MRI), STIR Pulse Sequence

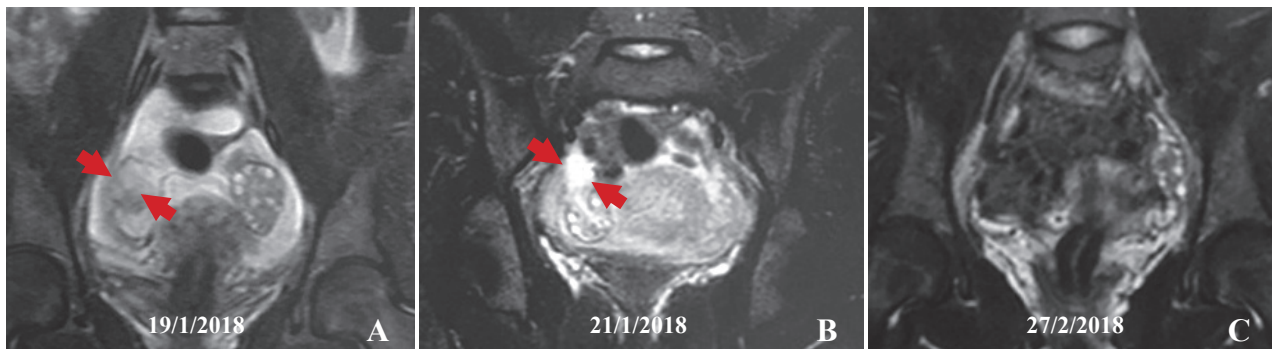
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### MRI pelvis coronal section, STIR Sequence



Shows rupture of right follicular cyst with fluid spillage into pelvic cavity and extending into paracolic gutters

Shows remaining rupture of follicular cyst (see arrows) with small amount of fluid collection confined only in right pelvic cavity

Shows complete absorption of intraperitoneal fluid collection.

**A** 27-year-old unmarried woman with acute intermittent abdominal pain for 6 hours without nausea, vomiting or fever. Urination and defecation were also normal. No leucorrhoea was found in this patient. Pelvic examination appeared to be normal. Others physical examination revealed tenderness with mild guarding at right lower abdomen. Laboratory findings: hemoglobin 10.8 g/dL, white blood cell 11.73 10<sup>3</sup>/μL, Neutrophil 80.1%, Lymphocyte 14.4%, Monocyte 3.1%, Eosinophil 1.0%, and platelet was in normal range. Provisional diagnosis was acute appendicitis versus rupture of ovarian cyst. Pelvic Ultrasonogram was chosen to be primary imaging revealing moderate amount of fluid in pelvic cavity and extended to both lumbar gutters and the appendix was not identified. Consequently, MRI pelvis was performed instead, the findings showed rupture of right ovarian cyst (see Fig. A). Management was conservative treatment and follow up with MRI imaging until complete absorption of fluid in pelvic cavity. (Fig. B-C).

Rupture of an ovarian cyst may occur in physiologic or pathologic conditions. The physiologic condition is rupture of follicular cyst in every ovulatory cycle. It is usually asymptomatic or may cause pain in mid cycle. Razieli A, et al.<sup>1</sup> reported 70 cases with ruptured corpus luteal cyst, surgical intervention was performed in 58 cases (83%). For this reason MR pelvis may help the physician in case of doubt from clinical symptoms and findings which may avoid surgery. Ruptured serous fluid or blood is the reason for irritation in the peritoneal cavity. Management including observation, analgesics or surgical intervention depends on severity of symptoms or hemodynamic instability. Nevertheless, some pathologic conditions such as dermoid cyst, ovarian cancers, ectopic pregnancy or adnexal torsion can be the causes of ruptured ovarian cyst presenting symptoms as same as after a physiologic condition and a pelvic Ultrasonogram is the first investigation in these cases. In this study, we present a case of physiological ovarian cyst rupture by MRI STIR sequence from initial ovarian cyst rupture until complete closure and absorption of intraperitoneal fluid collection. Interval MR Study can confirm the diagnosis.

### References

1. Razieli A, Ron-El R, Pansky M, et al. Current management of ruptured corpus luteum. *Eur J Obstet Gynecol Reprod Biol* 1993;50(1):77-81.