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RESEARCH ARTICLE

IMAGING OF CONTRACEPTIVE MIGRATION IN BAMAKO: ABOUT TWO CASES

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Abstract

Contraceptive migration is rare overall. It is of variable location. Its confirmation relies on the performance of imaging means. We report two cases of contraceptive migration of different location, one concerning the intrauterine device found in the left iliac fossa and the Jadelle implant found in the left pulmonary artery diagnosed in the radiology department of the "Marie Curie" Medical Clinic and the Commune III Health Center of Bamako. The combination of UPA-ultrasound, CT scan, and even pelvic magnetic resonance imaging in some cases allowed confirmation of the diagnosis by specifying the exact topography. Migration of contraceptives presents difficulties in clinical diagnosis and imaging remains the only alternative for a positive and topographic diagnosis.

Introduction:-

Extrauterine migration is one of the complications of the intrauterine device with approximately 140 cases of intra-abdominal migration described in the literature [1,2]. The contraceptive implant is radiopaque so its migration may be well visible on radiography. In 2016, two suppositions are put forward to explain this phenomenon, the first would be accidental intravascular insertion of the implant, and the second would be its migration a posteriori following shock or repetitive movements [3]. Imaging is of great help in the topographical diagnosis of migrated contraceptives. It is based primarily on ultrasonography, radiography, supplemented in some cases by pelvic computed tomography (CT) or, better, magnetic resonance imaging (MRI) [4]. We report two new observations of physical contraceptive migration. The aim of this work was to describe the role of imaging in the positive and topographic diagnosis in the management.

Observation 1:-

This was a woman of Malian origin, 35 years old, 3rd gesture, 3rd parity and 3 children living, who had used a contraceptive implant of the jadelle implant type. She went to the Commune III Health Center of Bamako for absence of palpation of the implant in the left arm associated with a thoracic pain for more than two weeks. The interrogation revealed that the implant had been placed for 4 years. An ultrasound of the soft parts and a radiography of the left lower arm were performed but did not reveal the presence of the jadelle implant in the arm. A frontal

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chest X-ray was performed in front of the thoracic signs finding a linear opacity located in the left lower lobe [figure 1]. A thoracic CT scan with contrast injection confirmed the presence of the migration of the implant in the form of a spontaneously hyperdense linear formation at the level of the latero-basal segmental artery of the left lower lobe measuring 35 mm in length [figure 2]. The therapeutic procedure was surgery by removal of migrated implant in the left segmental pulmonary artery.

Figure 1: Frontal chest x-ray showing linear opacity visible through the left heart opacity (red arrow)

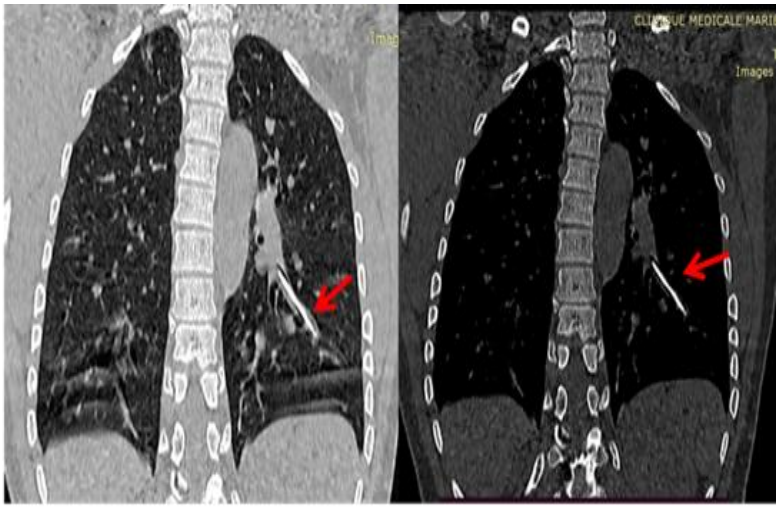

Figure 2: Thoracic CT showing the implant in the left postero-basal segmental pulmonary artery (red arrow)

Observation 2:

This was a woman of Malian origin, 35 years old, 4th gesture, 4th parity, 4 living children received for recurrent pelvic pain and cycle disorder for more than 3 months after insertion of an intrauterine device (IUD). The pelvic ultrasound revealed the absence of an IUD and homogeneous uterus; the endometrium was thin and regular. In addition, it revealed a linear echogenic image in the left iliac fossa (LIF), about 4 mm long, in the shape of a "T", related to the IUD [Figure 4].

An unprepared abdominal X-ray in the standing position confirmed the presence of the radiopaque material in the left iliac fossa [figure 3]. The diagnosis of secondary perforation of the uterus with intra-abdominal migration was accepted. Therapeutic management was carried out by laparoscopy, which revealed the presence of the IUD

embedded in the left iliac fossa. It was removed without incident after its detachment from the omentum, with a favorable evolution.

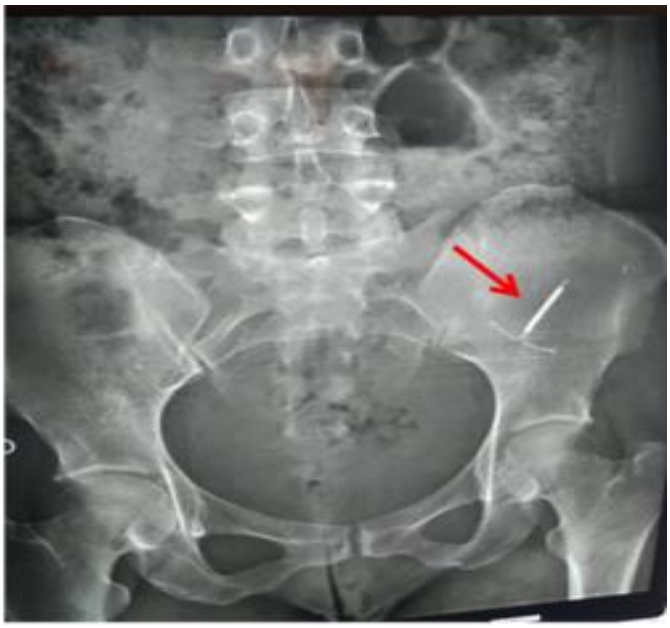

Figure 3: X-ray of the abdomen without preparation (ASP) showing the radiopaque implant next to the left iliac crest (red arrow)

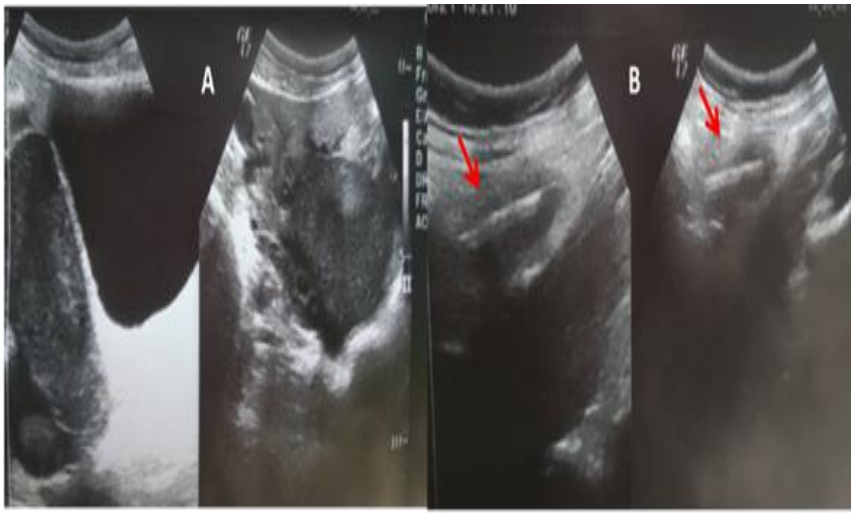

Figure 4: Abdomino-pelvic ultrasound showing a normal ultrasound of the uterus and its appendages (A) and the presence of the contraceptive implant at the level of the FIG (red arrow) (B)

Discussion:-

Contraceptives (IUD or Implant) are non-definitive means of contraception especially in developing countries. Their insertion may be accompanied by metrorrhagia, pain, or pelvic or arm inflammatory pathology [1]. As with any foreign body, it is often associated with significant complications if it is poorly monitored [1]. Migration into the uterus and arm, although rare, should always be kept in mind [2].The incidence of uterine perforation varies from 1/350 to 1/2,500 insertions [5]. This incidence may be greatly underestimated if the frequency of asymptomatic forms is taken into account [6]. Death from digestive complications has been reported in the literature [7]. Migration is usually into the peritoneal cavity, as was the case in our second observation, whose migrated IUD was found in

the left iliac fossa. The clinical symptomatology is often pain with disturbance of the cycle for those concerning the IUD, which is superimposable with our second observation.

Cases of chest pain have been reported in the literature concerning migration of the jadelle implant into the pulmonary artery [1,8]. Our first observation presented thoracic signs as in the literature. The diagnosis of implant or IUD migration is often evoked on unprepared abdominal X-ray, which shows the IUD with its metallic radiopaque tone [4,6], and implant migration outside the arm in the form of a linear opacity in the thorax on thoracic radiography [4,9,10], as in our first observation. Abdominal and pelvic ultrasound confirmed the intraperitoneal location of the IUD. Nevertheless, endovaginal ultrasonography is more effective for studying the uterus (vacuity and/or possible partial perforation of the uterine wall by one of the arms of the IUD) [11, 12].

In normal cases, an IUD is said to be in place when, on a sagittal section, the distance separating its upper end from the uterine fundus is 2 cm. It is said to be perforated intramurally if this distance is less than 2 cm [4, 13, 14]. Generally speaking, confirmation of migration is firstly based on the unprepared abdominal X-ray -ultrasound pair. It performed outside of any pregnancy, first eliminates the possibility of expulsion of the IUD, by showing a metallic structure made up of 2 orthogonal branches, one vertical and one horizontal [4]. Unprepared abdominal X-ray(UPA) then determines its area of projection, but does not prejudge its exact topography. Recourse to computed tomography (CT) or even pelvic magnetic resonance imaging (MRI) is indicated in certain cases, for a better topographical characterization, particularly in the case of associated pregnancy (MRI)[4]. CT confirmed the exact location in the segmental artery at the level of the left lower lobe in our patient of the first observation.

The treatment of physical contraceptive migration involves laparoscopic or endovascular extraction. The evolution is often favorable and the recurrence rate is nil [2].

Conclusion:-

Migration of the contraceptive into the left iliac fossa and into the pulmonary artery is a rare complication. Its prevention requires the respect of the rules of insertion of the contraceptive as well as a regular monitoring. The positive and topographical diagnosis is based on imaging means, namely ultrasound- UPA, CT scan and MRI in certain case.

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