Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/14753
DOI URL: http://dx.doi.org/10.21474/IJAR01/14753

RESEARCH ARTICLE

DIAGNOSIS AND MANAGEMENT OF SPONTANEOUS OVARIAN HYPERSTIMULATION SYNDROME DURING A NORMAL PREGNANCY

A. Oubid, S. Haddout, A. Cherkaoui, M. Jalal, A. Lemrissi and S. Bouhiya

Manuscript Info

Manuscript History
Received: 19 March 2022
Final Accepted: 25 April 2022
Published: May 2022

Key words:-
Spontaneousovarian Hyperstimulation, Bhcg, Twinpregnancy

Abstract

Ovarian hyperstimulation syndrome is an oftendescribediatrogenic complication followingexogenousovarian stimulation(supraphysiologic). This syndrome isalmostexclusivelyinduced by administration of gonadotropins and is only rarely seen followingtreatmentwithclomiphene citrate or spontaneous ovulation (12) In thiswork, wewillanalyze the diagnostic criteria and the clinical aspects as well as the management of ovarian hyperstimulation whichcanbeseenduring a normal pregnancyevenoutsideassistedmedicalprocreation.

Introduction:-

Ovarian hyperstimulation syndrome (OHSS) is an iatrogenic complication of controlled ovarian stimulation which is used in medically assisted procreation (MAP). It is manifested by the formation of multiple intra-ovarian corpus luteum and the formation of a third sector, which can be life-threatening, sometimes requiringresuscitationmeasures (7).

The occurrence of this syndrome during a spontaneous pregnancy remains rare (11) and can pose a problem of differential diagnosis, especially withovarian cancer (2).

This work will analyze the epidemiological, physiopathological, clinical, radiological characteristics and the therapeutic management of this syndrome.

Epidemiology:-

Ovarian hyperstimulation syndrome (OHSS) is an iatrogenic complication of ovarian stimulation. The incidence of OHSS is 3 to 8% but severe forms are rarer (<1%) (7). it is manifested by the formation of multiple intra-ovarian corpus luteum and the constitution of a third sector, occurring during the luteal phase or at the beginning of pregnancy (7). On the other hand, the spontaneous occurrence during a normal pregnancy is very rare (2).

Physiopathology:-

This syndrome is the consequence of an increase in capillary permeability which seems to be the main element of its physiopathology. This capillary hyperpermeability is induced by the release of certain substances, in particular vascular endothelial growth factor (VEGF), cytokines and nitric oxide, under the effect of hCG or LH (2), which leads a leak of vascular fluids towards the 3rd sector, with hypovolemia, impaired renal perfusion, or even cardiorespiratory shock (6)

Corresponding Author:- A. Oubid

A study published in 2008 aimed to test whether the increase in HCG alone (exogenous or endogenous), can trigger ovarian hyperstimulation syndrome, and concluded that there are several factors that may also be involved in the pathogenesis of this rare phenomenon (10).

Along with hemodynamic disturbances, thromboembolic accidents can represent seriouscomplications of the syndrome that can be life-threatening (4)

The initial evaluation (clinical, biological and ultrasound) makes it possible to classify OHSS into stages: mild, moderate, severe and critical (1, 9).

Spontaneous OHSS should be considered when faced with a picture similar to that of iatrogenic OHSS: abdominal discomfort, increased abdominal volume and ovarian volume, and ascites, particularly in earlypregnancy(3).

Riskfactors:-
The main risk factors to look for in OHSS (5):
- young age
- AMH (Anti-Müllerian hormone) is considered a quantitative marker of the ovarian response to stimulation, it has been reported a higher cancellation rate for risk of OHSS for an AMH level greater than 7 ng /mL
- a background of thrombophilia (lowered antithrombin III, factor V Leiden mutation, protein C and S deficiency, circulating anticoagulant or anticardiolipin antibodies, acquired resistance to protein C) in patients with severe OHSS
- Antral follicle count (AFC) which is a quantitative marker of ovarian response to ovarian stimulation, and has the same predictive value as AMH in predicting the occurrence of OHSS
- Associated hypothyroidism: the occurrence of OHSS is explained by the presence of nuclear TSH receptors in the granulosa cell stimulated by very high concentrations of TSH

Clinicalpresentations:-
The clinical picture and the initial classification of the severity of the syndrome are essential elements for the establishment of an accurate diagnosis and the implementation of effective management.

The first functional signs reported by patients with OHSS are pain, nausea, vomiting and increased thirst. In severe forms, excess fluid can lead to difficulty breathing and decreased urination.

On ultrasound, the main differential diagnosis is HyperreactioLuteinalis (massive cystic hypertrophy of the ovaries, mimicking a malignant tumor (8)), a luteinic cyst which appears more progressively and later in pregnancy. The action to be taken remains to first eliminate a malignant ovarian pathology, carry out ultrasound monitoring and appropriatetreatment (3).

What are the symptoms associated withovarian hyperstimulation syndrome?

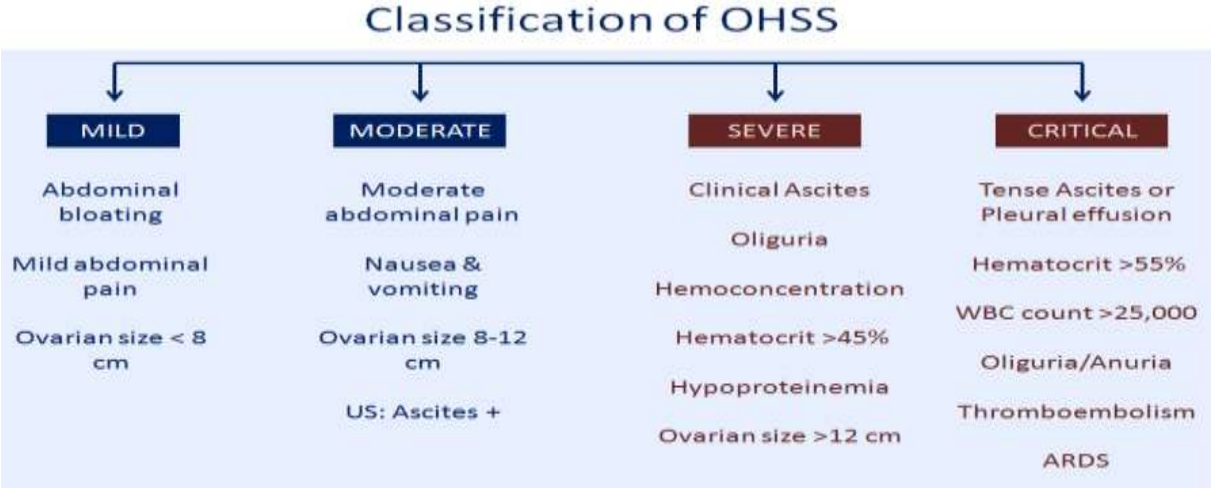

Figure 1(13):- Classification of OHSS**.**

Therapeutic care:-

The treatment of spontaneous OHSS is identical to that of iatrogenic OHSS: preventive treatment, because there is no truly curative treatment for this syndrome (7). Intravenous hydration should be implemented to prevent hemoconcentration and provide adequate perfusion of target organs. Administration of prophylactic doses of anticoagulants should be considered in women with severe ovarian hyperstimulation syndrome (12).

The etiologies of spontaneous OHSS in pregnancy are severe primary hypothyroidism, polycystic ovary syndrome, granulosa cell tumor, FSH-R mutation or multiple pregnancy (3).

Rare cases have been published presenting spontaneous OHSS associated with pregnancy (2, 3, 11). A case report has been described previously (2): a 26-year-old woman, pregnant with a single pregnancy weeks of amenorrhea, was hospitalized for pelvic pain with a rapid increase in abdominal volume in eightdays.

A second case was reported in a patient eight weeks pregnant with amenorrhea in a context of hypothyroidism (3)

The place of surgery is very limited in this syndrome. Only rare cases of hemorrhagic ovarian cyst rupture or torsion of the ovary require surgery. It is necessary to ensure careful haemostasis of these particularly fragile and bleeding ovaries on contact (5).

The evolution of the syndrome fades with the decline of plasma HCG levels. Severe OHSS can last up to two to four weeks, mainly in case of pregnancy, especially if it is multiple (5)

Conclusion:-

The occurrence of ovarianhyperstimulation syndrome outside of inducing treatment has been very rarely described during spontaneous pregnancy, and often observed as a complication of assisted reproduction. Management depends on the initial stage of the phenomenon. And remains purely symptomatic and preventive of complications, especially thromboembolic.

Référence:-

1. Aboulghar M.A, Mansour R.T, Ovarian hyperstimulation syndrome: classifications and criticalanalysis of preventivemeasures, Human Reproduction Update, Vol.9, No.3 pp. 275±289,
2. Boufettal H, Essodegui F, Mahdoui S, Samouh N, Syndrome d'hyperstimulation ovarienne spontanée au cours d'une grossesse normale, Imagerie de la Femme (2014) 24, 31—33
3. Delabaere A, Tran X, Jardon K, Pouly J.-L, Bourdel N, Syndrome d'hyperstimulation ovarienne spontanée dans un contexte gravidique avec hypothyroïdie, Gynécologie Obstétrique & Fertilité 39 (2011) e64–e67
4. Dulitzky M, Cohen SB, Inbal A, Seidman DS, Soriano D, Lidor A, et al. Increasedprevalence of thrombophiliaamongwomenwithsevereovarian hyperstimulation syndrome. FertilSteril 2002;77:463—7.
5. Lamazou F, Legouez A, Letouzey V, Grynberg M, Le syndrome d'hyperstimulation ovarienne : physiopathologie, facteurs de risque, prévention et prise en charge, Journal de GynecologieObstetrique et Biologie de la Reproduction (2011) 40, 593—611
6. Laurent M.C, Conduite à tenir devant une hyperstimulation ovarienne, Urgences en gynécologie obstétrique / 2005
7. Legouez A et al. Le syndrome d'hyperstimulation ovarienne, Annales Francaises d'Anesthesie et de Reanimation 30 (2011) 353–362
8. Malinowski A K, Jonathan Sen MSc, MathewSermer MBBS, HyperreactioLuteinalis: Maternal and FetalEffects,JObstetGynaecol Can 2015;37(8):715–723
9. Mathur R, Kailasam C, Jenkins J. « Review of the evidence base strategies to preventovarian hyperstimulation syndrome », Hum Fertil, vol. 10, 2007, p. 75–85
10. Rachel M-C, Gheona A, Uziel B, Renat R, Tamar H-S, Talia E-G, Doeselevatedhumanchorionic gonadotropin alone trigger spontaneousovarian hyperstimulation syndrome? Fertility and Sterility, Vol. 90, No. 5, November 2008
11. Rotmensch S, Scommegna A, Spontaneousovarian hyperstimulation syndrome associatedwithhypothyroidism, AM J OBSTET GYNECOL 1989;160:1220-2
12. Shmorgun D, Claman P, Diagnostic et prise en charge du syndrome d'hyperstimulation ovarienne, Journal ObstetGynaecol Can 2017;39(11):e487–e495
13. Bhutani R. Syndrome d'hyperstimulation ovarienne (SHO) : une complication radiologiquement moins connue de l'hormonothérapie dans l'infertilité féminine. RSNA_2012. LL-OBE2237.