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RESEARCH ARTICLE

CEREBRAL METASTASIS REVEALING GESTATIONAL TROPHOBLASTIC TUMOUR: A CASE REPORT AND LITERATURE REVIEW.

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Abstract

Gestational trophoblastic diseases comprise benign entities called hydatiform moles (HM), which could be complete or partial moles, and malignant entities called gestational trophoblastic tumors (GTT) which include some invasive moles, choriocarcinoma, placental site trophoblastic tumor and epithelioid trophoblastic tumor. GTT's most common form is the invasive mole, diagnosed when cancer is still confined to the uterus in most cases, while choriocarcinoma is the rarest form leading to distant metastases.
GTT's therapeutic protocol implementation requires a locoregional and distant staging in order to find the appropriate protocol.
Through this work, we present you with a case report of a patient with cerebral metastasis revealing a GTT, and her care management in our department.

Introduction:-

Gestational trophoblastic tumors (GTT) represent malignant entities of gestational trophoblastic diseases (GTD). They always happen following a pregnancy and are most often molar (hydatiform mole). They are also characterized by a sustained and inordinately high level of Human chorionic gonadotrophin hormone (CGH). The diagnosis is established by anamnestic, clinical, and biological approach and currently with a considerable use of radiological approach.

In literature, its frequency varies between 0, 2 % and 0, 7% per 1000 pregnancies [1].

Gestational trophoblastic tumor is a tumor with a high metastatic ability where cerebral metastasis represents 10 % in comparison with other sites, including lungs 80%, vagina 30% and liver 10% [2].

The brain is considered as a tropism of the cerebral trophoblastic tumor's cells with a percentage of 67% after the melanoma and it's characterized by several clinical, radiological and therapeutic features [3].

Through this publication, we report a rare case of a patient who had had a post molar cerebral symptomatology appealing a secondary localization of gestational trophoblastic tumor.

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Observation:-

A 27-year-old female patient, with an unremarkable medical history, gravida 5 para 2 (2 spontaneous miscarriages non treated with curettage, and 2 living children), who had presented 1 year ago a first trimester metrorrhagia where the biological and radiological investigations had revealed a molar pregnancy, it was ultrasonically aspirated and histology revealed a partial molar pregnancy, without post molar follow-up. 1 year later, the patient presented a sever helmet headache and a monocular diplopia, giving reason to her consultation in the emergency department. A cerebral CT had showed a right occipital intra axial mass that was probably tumoral, completed by a cerebral MRI that revealed a right parieto-occipital nodular lesion with a tumor looking (figure 1) referring to a necrotic metastasis. The gynecological examination was normal, in addition, the transvaginal ultrasonography showed a normal-sized uterus, however, the interlining line was interrupted by a heterogeneous hyperechogenic image with myometrial invasion signs (figure 2), the two ovaries were seen. Plasmatic beta HCG determination showed a very high rate at 300000.

The diagnosis of a GTT was retained, hence the realization of a systematic staging including cerebro thoraco abdominopelvic CT scans and a pelvic MRI.

At the end of this assessment, many cerebral, hepatic and pulmonary metastatic sites were discovered, also the tumor was classified as a high risk, and hence the establishment of a polychemotherapy based on Actinomycin D, etoposide, methotrexate, vincristine and cyclophosphamid (EMA-CO), as well as a decompressive radiation 30 GY divided into 10 sessions seeing the effect of the cerebral mass.

Sadly, the progression was unfavorable, and the patient passed away after 2 months.

Discussion:-

Gestational trophoblastic tumors represent the malignant entity of gestational trophoblastic diseases with a high metastatic ability. They are characterized by a sustained and inordinately high level of human chorionic gonadotrophin hormone, and include 4 types that are: invasive mole, choriocarcinoma, placental site trophoblastic tumor and epithelioid trophoblastic tumor. They are most often clinically suspected when metrorrhagia is persisted or reappeared after a molar aspiration, sometimes from a general state alteration with asthenia, anorexia and weight loss, and are in some rarely cases evoked either when a paraneoplastic sign such as dyspnea, or intracranial hypertension signs appear.

Biologically, GTT is revealed by a disturbed evolution of the HCG curve after a molar pregnancy. In the other hand, after a non-molar pregnancy, a persistent uterine tumor secreting HCG corresponds almost always to a trophoblastic carcinoma [4]. The retained diagnostic criteria are those suggested by FIGO in 2000 based on a consensus of experts. When the diagnosis is established, the recommendation is to evaluate the extension which determines the prognosis. The French reference centers recommend a staging harmonization. In order to evaluate the local staging, it is recommended to realize a transvaginal ultrasonography, accompanied by a color Doppler if possible. The transvaginal ultrasound may determine the presence of hypoechogenic zones and intramyometrial nodules, the intraendometrial hypoechogenic zones (vascular lacunae) are surrounded by hyperechogenic zones (trophoblastic nodules). Generally, the invasive mole images are diffuse and heterogeneous, often containing cystic images [4]. The MRI provides a locoregional staging assessment. CT scan is the imaging's best mean for evaluating different metastatic sites of GTT [5], in exception of cerebral and vaginal metastases.

Physiopathologicaly, there are 2 mechanisms that are highly involved and could explain cerebral tropism, the first one « seed » happens by a migration and then invasion, the tumoral cell starts by escaping the immune defenses and finally by penetrating the blood-brain barrier, the second one « soil » is different, and it happens via the angiogenesis and the proliferation within the cerebral parenchyma [6].

The Cerebral metastases of this neoplasia manifest themselves clinically by intracranial hypertension, focal deficit and epileptic seizures, however, they remain sometimes asymptomatic.

The Best imaging mean is cerebral MRI which could detect small lesions along with oligometastatic lesions, it is also a radiological orientation mean, because the localizations of the gestational trophoblastic tumor are manifested by a unique lesion with a hemorrhagic aspect [2].

Cure management of this neoplasia should be in specialized centers, with a multidisciplinary care as in our case, where the recommended treatment is chemotherapy, given the chemo sensitivity of these tumors. The three most efficient molecules are: methotrexate, actinomycine-D and etoposide in compressive cases [7]. In the case of cerebral metastasis, Radiotherapy is indicated in combination with symptomatic treatment which is corticosteroid therapy and osmotherapy in compressive cases [2].

Conclusion:-

Through this Work we have concluded that a cerebral localization revealing a gestational trophoblastic tumor is possible, especially in childbearing age patients presenting cerebral symptoms after a molar pregnancy, this localization is proved by many clinical and biological arguments, but especially by imaging based on MRI.

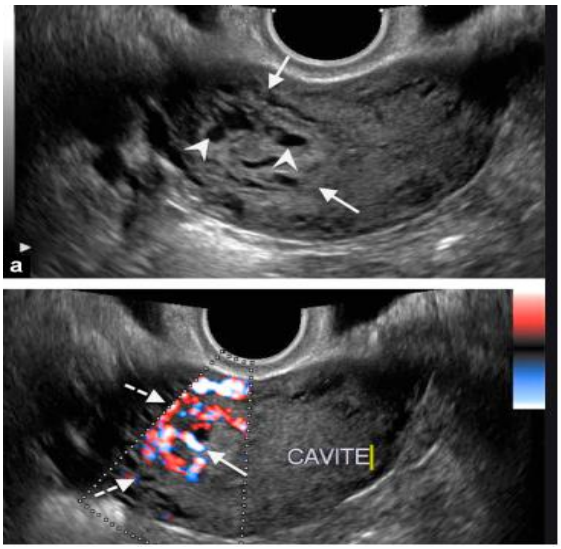

Figure 1:-MRI aspect of GTT's secondary location.

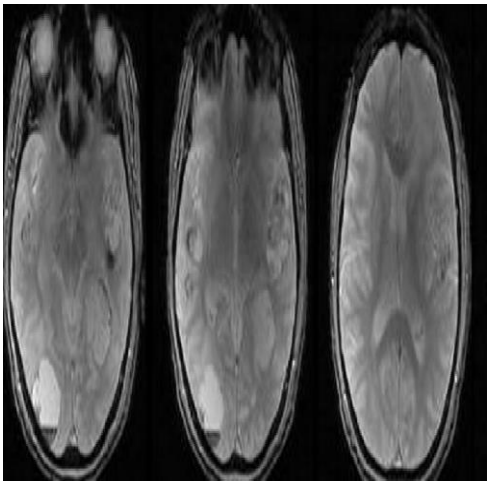

Figure 2:-GTT ultrasonographical aspect.

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