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GYNAE SPECTRUM

Dear Doctor,
Greetings from Micro Labs. We are happy to bring you “Gynae Spectrum”, which contains latest and interesting news in the field of Obstetrics and Gynecology.

This issue contains:

- Variations in Seizure Frequency and its Therapeutic Management during Pregnancy
- An unusual presentation of spontaneous pyomyoma in perimenopausal women
- Anti-biotics prove efficacy when administered post clamping of the umbilical cord

Should you require any article or, medical information, please feel free to contact us medicalservices@microlabs.in

Looking forward to your valuable feedback.

Best Regards,
Medical Team, Micro Labs Limited

1. Variations in Seizure Frequency and its Therapeutic Management during Pregnancy

Introduction

Studies regarding changes in frequency of seizures among women with epilepsy have been lacking due to the dearth of non-pregnant group to compare which would provide data on the natural course of seizure frequency in the two study groups.

Methods

The study was designed as prospective, observational, multicenter cohort study, in which the seizure frequency was compared through the peripartum period (the first 6 weeks after birth) (epoch 1) with the frequency during the postpartum period (the following 7.5 months after pregnancy) (epoch 2). The comparator group consisted of non-pregnant women with epilepsy who had a similar follow-up during 18-month period. The percentage of women who experienced higher seizure frequency during epoch 1 than during epoch 2 was taken as the primary end-point. The adjustment in the doses of anti-epileptic drugs that were administered in both the groups were also compared during the course of 9 months of epoch 1.

Results

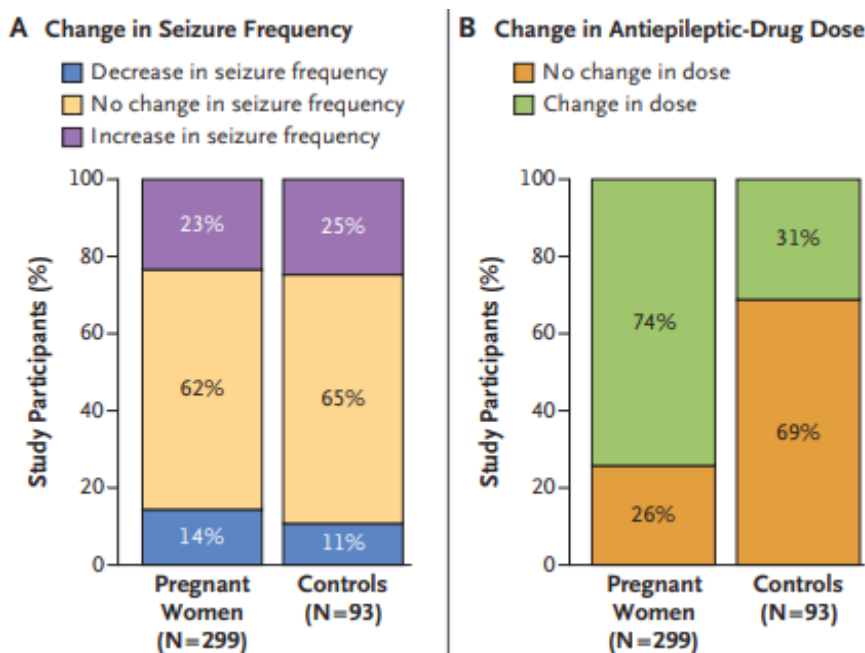
The sample size of pregnant women was 351 and the comparator group was 109. The seizure frequency was found to be higher during the epoch 1 compared to the epoch 2 in 23% (70 pregnant women) of the pregnant women and in 25% of the non-pregnant women in the control group.

Outcome	Pregnant Women		Controls		Odds Ratio (95% CI) [†]
	no. of women	no. with outcome (%)	no. of women	no. with outcome (%)	
Primary outcome					
Higher frequency of seizures that impaired awareness during epoch 1 than during epoch 2‡	299	70 (23)	93	23 (25)	0.93 (0.54–1.60)
Secondary outcomes					
Primary outcome, according to timing					
First trimester (wk 0–13)	41	3 (7)	92	14 (15)	0.44 (0.12–1.62)
Second trimester (wk 14–28)	290	44 (15)	92	16 (17)	0.85 (0.45–1.59)
Third trimester or delivery (wk 29+)	273	40 (15)	90	11 (12)	1.23 (0.60–2.52)
Peripartum (delivery to 6 wk after birth)	275	34 (12)	88	7 (8)	1.63 (0.70–3.83)
Primary outcome, according to seizure type§					
Any type	307	110 (36)	95	32 (34)	1.10 (0.68–1.79)
Convulsive	269	39 (14)	82	12 (15)	0.99 (0.49–1.99)
Focal	189	73 (39)	57	20 (35)	1.16 (0.63–2.16)
Generalized	95	29 (31)	29	8 (28)	1.15 (0.46–2.91)
Unclassified	26	8 (31)	10	4 (40)	0.67 (0.15–3.03)
≥1 change in dose of antiepileptic drug in women with a history of seizures that impair awareness¶	299	222 (74)	93	29 (31)	6.36 (3.82–10.59)

Primary and Secondary Outcomes



There were adjustments in the ant-epileptic dosage for at least once in 74% of the pregnant women and 31% of the controls.



Changes in Seizure Frequency and Antiepileptic-Drug Dose.

Discussion:

Since, the last two decades, the pharmacotherapy of epilepsies during pregnancies have changed that there has been a significant dip in the incidence of major congenital malformations including the frequency of adverse neurodevelopmental incidents. However, it not known clearly, if the antiepileptic treatment is the cause of relatively low incidence of malformations. Though there has been a spike in the use of anti-epileptic drugs, no significant change in the seizure frequency has been reported. This might be due to the lack of non-pregnant comparator group.

The principal finding in this study was that there was no statistically significant difference in the increased seizure frequency during epoch 1 when compared to epoch 2.

Conclusion

The percentage of pregnant women with epilepsy who had an increased incidence of seizures during the postpartum period was similar to that of the non-pregnant comparator group during the corresponding epochs. The dosage adjustments were more frequent in pregnant women than in the non-pregnant women during the same study period.

Reference:

Pennell PB, French JA, May RC Et al.; MONEAD Study Group. Changes in Seizure Frequency and Antiepileptic Therapy during Pregnancy. N Engl J Med. 2020 Dec 24; 383(26):2547-2556.



2. An unusual presentation of spontaneous pyomyoma in peri-menopausal women

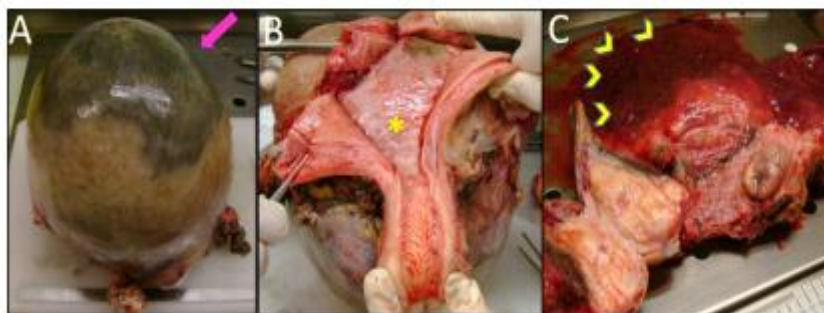
Pyomyoma is an unusual presentation that results from the infarction and infection of uterine leiomyoma. The most common aetiology of pyomyoma involves events vascular compromise followed by bacterial seeding from direct, haematogenous or lymphatic spread. Pyomyoma is associated with the risk of spontaneous rupture, which presents as an acute abdomen with septicemic shock. Sepsis, presence of leiomyoma and the absence of any other cause of infection associated with abdominal pain and fever are the main three symptoms of pyomyoma.

A 51 year old female patient presented at the intensive medical care unit with complaints of gradual-onset abdominal pain and a three-day history of fever and diarrhea.

The patient was obese and had a diagnosis of bipolar disorder due to which she did not have a previous routine examinations such as a vaginal ultrasound. The patient had no sexual activity and the menstruation period was about 6 months ago.

On presentation, the patient had a distended abdomen with a painful mass which was palpable at the hypogastric zone, following which a contrast CT was performed, which revealed a pelvic mass measuring 21cm that contained air. Since the air and infection had already moved to the periphery, the patient underwent an exploratory laparotomy with a total abdominal hysterectomy and bilateral salpingo-oophorectomy. Presence of solid tumors were confirmed by intraoperative findings. The resected uterus weighed 4770 g and measured 24×21×28 cm, the anterior wall was coated with greenish smooth serosa.

The anterior wall was deformed by a 21×18cm extensively necrotic, softened, foul smelling nodule. Histological examination showed leiomyomas with almost complete infarction, significantly necrotic with an inflammatory peripheral border in the transition between the preserved and necrotic tumour. The patient stayed in the hospital for 23 days (5days in intensive care, 1day in intermediate care, and 17 days in the gynaecology department). The patient was discharged from the hospital after recovery.



Gross specimen of the uterus shows: (A) the dark green serosal surface of the pyomyoma (white arrow); (B) the mass that compresses the uterus, as shown in the open uterine cavity (asterix). (C) The content of the infected myoma is seen spread in the table (arrowheads). It is mainly haemorrhagic but has a foul odour due to infection. Histology confirmed an extensive necrotic and infected leiomyoma

Reference

Peixinho C, Silva AC. Unusual case of spontaneous pyomyoma in a perimenopausal woman. *BMJ Case Rep.* 2020 Dec 13; 13(12):e240031.

IN FOCUS

3. Anti-biotics prove efficacy when administered post clamping of the umbilical cord

Antibiotics for caesarean delivery births are even as effective when they're given after the umbilical duct is clamped as before clamping the present practice will benefit newborns' developing microbiomes, according to research.

The study, by far the is the largest of its kind and published in the journal Antimicrobial Resistance & Infection Control, challenges current recommendations for antibiotic use. Administering antibiotics after clamping doesn't increase the danger of infection at the location of C-section incisions, the study concludes.

Most national and international guidelines, including those of the World Health Organization, recommend that pregnant women receive antibiotics before the skin incision for caesarean delivery.

This exposes the baby to antibiotics during birth, affecting the microbiome assembly within the new born. Early disturbance of bacterial colonization and therefore the developing healthy microbiome may have consequences for immune development, resulting in immune malfunctions later in life.



A healthy microbiome helps guard against infection and antibiotics disrupt the microbiome, wiping out both bad and good bacteria. Even stressors perceived as small, like a hospital birth, can affect the neonatal microbiome, as shown by Dominguez-Bello's group during a 2018 study.

Administering antibiotics to stop infections of the surgical site is common practice and justified to attenuate risks. But for caesarean delivery, the impact of antibiotics on the new born and its developing microbiome should be considered, also because the risk of infection. Giving mothers antibiotics after clamping avoids additional stressors that impair transmission and colonization of maternal microbes after birth, therefore the current recommendation for antibiotics before clamping should be revised.



The study, led by Rami Sommerstein at Bern University Hospital in Switzerland, covered 55,901 women at 75 hospitals in Switzerland from 2009 to 2018. They include 26,405 patients who received antibiotics before skin incisions for C-sections and 29,496 patients after their umbilical cords were clamped. Of the 846 documented infections after C-sections, 379 (1.6 percent) occurred in women who received antibiotics before incisions and 449 (1.7 percent) occurred in those that received antibiotics after their umbilical cords were clamped, with no statistical differences.

Reference

Sommerstein R, Marschall J, Atkinson A et al.. Antimicrobial prophylaxis administration after umbilical cord clamping in cesarean section and the risk of surgical site infection: a cohort study with 55,901 patients. Antimicrob Resist Infect Control. 2020 Dec 22;9(1):201.



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