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GYNAE SPECTRUM

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Assess the phthalate exposures using both urinary level of two DEHP metabolites in females and its association with reproductive and fertility outcomes.

Introduction: Phthalates are ubiquitous man-made chemicals that emerged in modern life with the increase of plastic use in households and exposure to phthalates may happen by ingestion, dermal absorption, or inhalation[1]. Governmental and public concern exists over the potential adverse human health risks related to ubiquitous exposures to plastic additives among the general population. High-molecular weight phthalates phthalate (DEHP) are primarily used as plasticizers and used in consumer products, flooring and wall coverings, food contact applications and medical devices[2]. Bisphenol A (BPA), parabens and phthalates are chemicals with endocrine disrupting activities found in numerous consumer and personal care products leading to widespread general population exposure Urinary concentrations of some of these endocrine disrupting chemicals (EDCs) have been associated with poor semen quality in epidemiologic studies semen quality, is the underlying or contributing cause of infertility[3].

Method: A total of 325 females with and without fertility problems at gynecology clinics filled out a questionnaire and provided a urine sample. Urine samples were analyzed for two DEHP metabolites: MEHHP, mono phthalate; MEOHP, mono phthalate, using an HPLC/MS/MS analytical method. Information was obtained by direct interviews regarding socio-demographic characteristics, medical and surgical history, reproductive history, and a variety of potential sources of exposure to phthalates and sources of phthalates exposure in the past 48 h. The analysis was performed using SAS 9.4 Cary NC, USA. Maximum of replicate concentrations were used.

Results: The study included a total of 325 subjects who had a good representation across the age ranges with the lowest percentage being 7.5% in the range 18–24. Cases had the most participants in the range 30–34 and the least percentage in the range 18–24. The age range with the highest percentage for controls was 35–39 and lowest percentage was in the range of 18–24. The majority of participants fell in either the normal or overweight BMI category.

More than half of the controls had more than two children while most of the cases had no children. A History of abortions was noted in both cases and controls.

As figure 1 shows the histogram distribution of the urinary concentrations of Total DEHP, MEHHP, and MEOHP at the diagonal panels. A significant moderate positive correlation was identified between MEHHP and MEOHP. The finding suggests that women who have high MEOHP levels were also more likely to have high MEHHP levels. As expected, DEHP had a strong significant positive correlation with the two metabolites. The urinary concentrations of MEOHP and total DEHP were significantly higher in cases than controls. Although, pregnant controls had lower concentrations of phthalates than non-pregnant controls the difference was not significant ($p = 0.12$) for MEOHP. MEOHP was significantly higher in cases compared to controls ($p = 0.0017$). On the other hand, pregnant controls were significantly lower ($p = 0.017$) than both cases and non-pregnant controls for MEHHP.

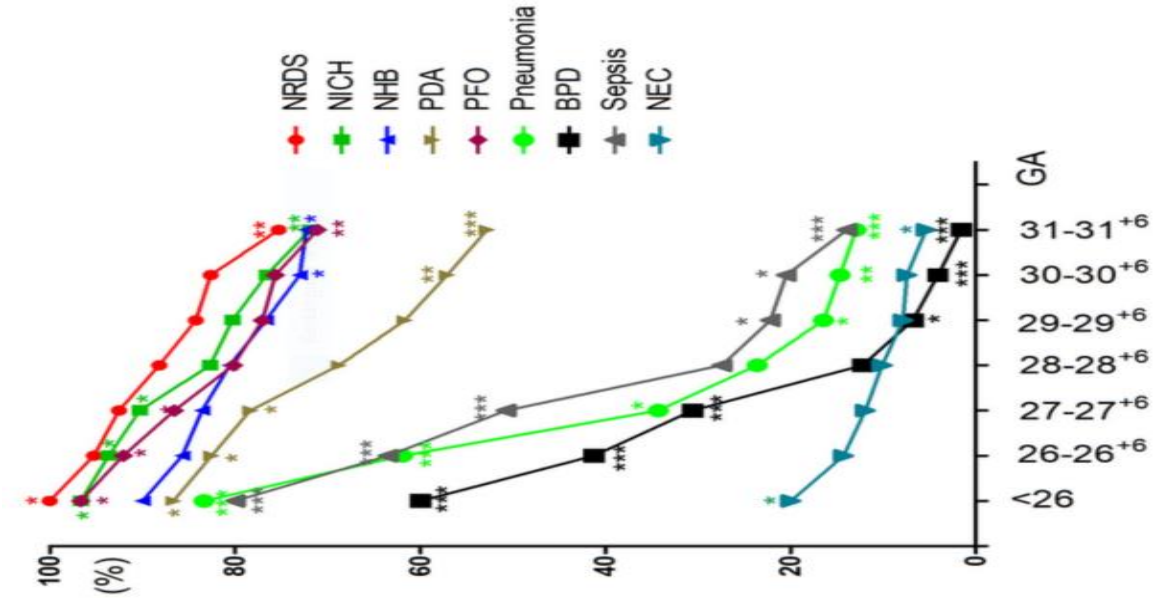

Figure 1 Comparison of complications of premature infants at different gestational ages

In this study there were significant differences in the incidence rates of neonatal pneumonia, BPD and I sepsis between the 28–28+6 weeks of gestation and the 29–29+6 weeks of gestation groups, while other complications, including NRDS, NICH, NHB, PDA, PFO, sepsis, and neonatal NEC, did not differ significantly between these groups. This may provide a basis for extending the gestational period beyond 28 weeks when EP birth is unavoidable while ensuring the safety of the mother and child.

Conclusion: The study concludes that study demonstrated high exposure of the Jordanian population to DEHP. It confirms the association between DEHP exposure and infertility.

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Assess The Pattern Of Clinical Presentation Among Infertile Hyperprolactinemic Females

Introduction: Worldwide, endocrine disorders affect about 15% of couples in which Hyperprolactinemia is a common endocrine disorder[1]. Its prevalence ranges from 0.4% in unselected normal adult females to as high as 9%–17% in females with reproductive health disorders. Its prevalence was found to be 5% in a family planning clinic, 9% in women with adult-onset amenorrhea, and 17% among women with polycystic ovary syndrome[2]. The common cause of hyperprolactinemia is pituitary adenoma and Prolactin-secreting adenomas account for an estimated 20% to 30% of all functioning pituitary adenomas. Hyperprolactinemia can be clinically manifested by a variety of symptoms related to dysregulation of prolactin functions, such as galactorrhea, erectile dysfunction, and menstrual abnormalities. Treatment of hyperprolactinemia relies on stimulation of dopamine receptors, a known prolactin inhibitor. Commonly used drugs are bromocriptine and cabergoline. Bromocriptine is effective in up to 78% of patient while with cabergoline up to 86% of patients will respond[3]. The aim of this study is to assess the pattern of clinical expression among infertile hyperprolactinemic females.

Method: A prospective study was conducted in infertile females aged between 15 to 45 years. A total of 110 infertile women patients were unable to conceive despite unprotected sexual intercourse for 1 year were included in this study. All the demographic and medical history of the patients was recorded. Subjects with regular menstrual cycles was collected on the second or third day of the cycle after fasting for 8-12 hours overnight. Samples of the patients with irregular menstrual cycles or amenorrhea were collected randomly after overnight fasting. SPSS version 23:00 was used for data analysis.

Results: The study result reveals that in a total of 110 infertile women, 58 (52.7%) were hyperprolactinemic. The percentage of hyperprolactinemic subjects having secondary infertility (72.4%) was more than subjects having primary infertility (27.5%). In a total of 110 women High hyperprolactinemia was not reported whereas 55 (94.8%) subjects had mild, while 3 (5.1%) had moderate hyperprolactinemia. The majority (58.6%) of hyperprolactinemic females fell in the age group of 25-34 years, while the minority (10.3%) was in the age group of 14-24 years. The clinical presentation included galactorrhea (27.5%) followed by a mixed presentation (22.4%), menstrual abnormalities (15.5%), recurrent abortion (8.6%), and hirsutism (3.4%).22.4% patients were symptomless.
In this study, no higher serum prolactin level was found, suggesting that prolactinomas are rare among infertile women. The majority (58.6%) of hyperprolactinemic females fell in the age group of 25-34 so it shows that most of infertile women fell in mid-reproductive age. In the current study, the minimum age was 15 years, while the maximum period was 45 years The study found that hyperprolactinemia increased proportionally during secondary infertility. In

the current research, galactorrhea was the most common presentation of hyperprolactinemia.

Table:1 Association between the type of infertility and hyperprolactinemia

Infertility	**N%**
Primary	16 (27.5)
Secondary	42 (72.4)
Total	58 (100)

Conclusion: The study concludes that most common pattern of presentation of hyperprolactinemic infertility was galactorrhea; the larger sample was symptomless.

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A Case Control study to Investigate the Endometritis incidence rate and risk factors after Arterial Embolization for Postpartum Hemorrhage

Introduction: Postpartum hemorrhage (PPH) occurs in approximately 2% of all deliveries, accounting for one-fourth of maternal deaths and arterial embolization (AE) was considered as a treatment strategy for uncontrollable PPH[1]. Hemorrhage continues to be the most significant direct cause of maternal death, accounting for 661000 deaths worldwide one-third and one-half of refractory PPH cases are due to uterine atony. Laparotomy for compressive sutures, ligation of uterine blood sup-ply or hysterectomy is frequently needed to prevent deaths among these women. Embolization of uterine arteries by interventional radiology is also an option, although availability in low-resource settings is very limited. Endometriosis causes impaired quality of life (QoL) for women of reproductive age, and has malignant clinical manifestation despite being a benign disease[3]. The aim of this study is to Investigate the Endometritis incidence rate and risk factors after Arterial Embolization for Postpartum Hemorrhage

Method: Patients who underwent AE for PPH were included in this study. Comparison was made between the patients who did and did not develop EM after AE for PPH. Based on the American College of Obstetricians and Gynecologists Practice, PPH was defined as bleeding greater than 1000 mL within 24 hours of delivery. Patients with a body temperature of 38 C or higher, abdominal or lower abdominal tenderness and purulent discharge from the cervix based on the National Healthcare Safety Network Patient Safety Component Manual. Diagnosis of EM was made if the patient had at least two of the following symptoms three or more days after AE that include body temperature of 38 C or higher, abdominal or lower abdominal tenderness and purulent discharge from the cervix based on the National Healthcare Safety Network Patient Safety Component Manual. Data were analyzed by the Mann–Whitney U-test and Fisher's exact test and the classification and regression tree

Results: The study result reveals that, in a total of 24 patients underwent AE for PPH from 2005 to 2020, and 20 patients met the eligibility criteria. Eight patients (40%) developed EM (EM group), and twelve patients did not general EM risk factors did not differ between EM group and non-EM group in the univariate analysis.

Factors associated with causing EM were ranked using the CART model. Extravasation of contrast medium was the top risk factor the second-leading risk factor was a bleeding volume greater than 2500 ml. Furthermore, we identified a significant difference between the EM group and non-EM group after changing the bleeding volume classification from a continuous variable to a nominal variable. We did not include the length of hospital stay in the multivariate analysis because there was multi collinearity between EM and the length of hospital stay. We created the EM prediction model using extravasation and a bleeding volume greater than 2500mL. The mode was 87.5% sensitive and 66.7% specific.

Figure:2 Obstetric and neonatal outcomes in underweight, normal weight, overweight and obese mothers

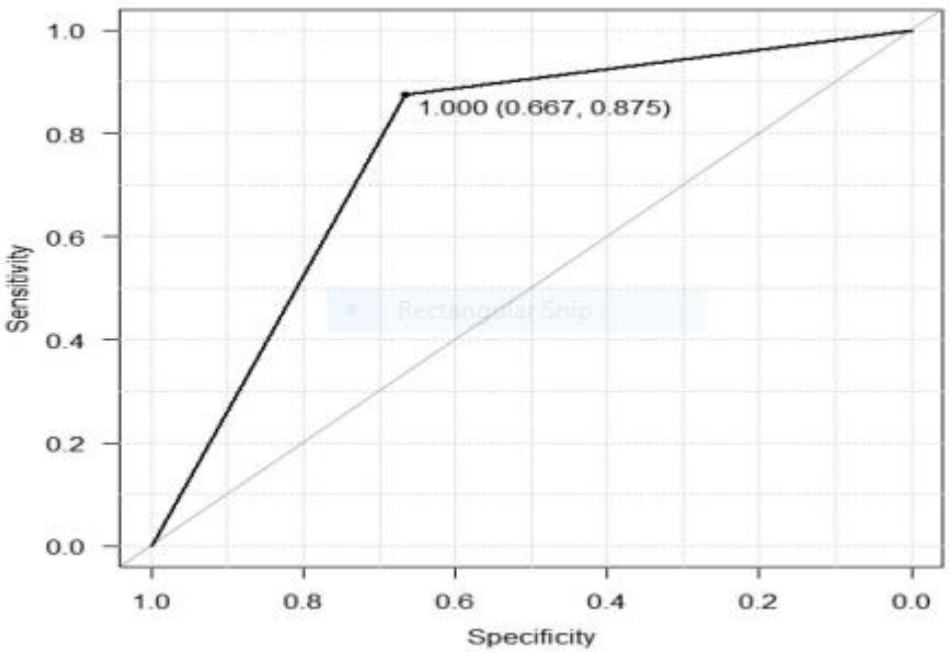

Figure 2: *EM prediction model using extravasation and a bleeding volume*

Conclusion: The study found that contrast medium extravasation rate on computed tomography scans before the AE procedure was significantly higher in the EM group compared to the non-EM group. recognizing high-risk patients and intensive postpartum management allows for the early detection and treatment of this disease

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HRT in Women Undergoing Pelvic Clearance for Endometriosis- A Case Report

Introduction: Endometriosis is the most common gynecological condition affecting 10% of women of reproductive age and also it leads to severe and debilitating chronic pelvic pain[1]. Endometriosis termed as presence of functional endometrial tissue outside the uterine cavity with a tendency towards invasion and infiltration. Being an estrogen-dependent disease, endometriosis tends to undergo regression after spontaneous or surgically-induced menopause[2] It affects 15% of women in the childbearing age and 2–5% of postmenopausal women. Treatment usually necessitates medication or surgery, in severe cases pelvic clearance may be necessary. As this treatment may lead to an estrogen deficiency status, which is associated with a significant morbidity and have major impact on quality of life. Hormone replacement therapy (HRT) particularly needed in these patients[3]. Main concern with HRT after pelvic clearance for endometriosis is the potential risk of malignant transformation of residual endometriosis foci due to exposure to exogenous oestrogen. The purpose of the case report in this study was to highlight the potential risk associated with (oestrogen only) EO-HRT after pelvic clearance for severe endometriosis

Case: A 45-year-old woman with 2-year history of severe and debilitating CPP while on high dose EO-HRT for five years after subtotal hysterectomy and bilateral salpingo-oophorectomy (STH-BSO) for severe endometriosis reason given by the previous surgeon, who was not an endometriosis specialist. The reason for performing subtotal rather than total hysterectomy was the extensive deep peri-cervical endometriosis. It is therefore clear that this surgery did not involve complete excision of endometriosis leaving behind significant peri-cervical disease. The patient medication history includes EO-HRT initially 2 mg/day, which was later increased to 3 mg/day to control her severe menopausal symptoms. The patient was pain-free and remained so for around three years when she started to experience recurrence of pain. The pain gradually worsened until it has become severe and debilitating after about four years from surgery.

On examination reveals that Pelvic examination revealed tender and fixed cervical stump with no palpable endometriosis nodules. An MRI of the pelvis shows that multiple endometriomas over the cervical stump with the largest measuring 3 cm in diameter and with extensive adhesions to the sigmoid. Severe right hydro ureter and hydronephrosis with complete right renal parenchymal loss was found. Complete failure of the right kidney was noted and planned for right nephrectomy.

The patient HRT was modified by reducing the estradiol valerate dose to 2 mg/day and adding Norethisterone tablets 15 mg/day. HRT was prescribed to alleviate severe menopausal symptoms and to provide long-term protection for bone health. Laparoscopy was later performed by the Endometriosis Gynecologist jointly with the Colo-Rectal surgeon.

As shown in figure 3, a completely obliterated pelvis the sigmoid covering and adherent to the cervical stump, pelvic walls and the bladder was found. Extensive adhesiolysis was carried out with complete mobilization of the recto-sigmoid, endometrioma complex, which was attached to the top of the cervical stump, were dissected from all the surrounding adhesions. Colpotomy was performed with complete excision of cervix and the attached endometriomas.

Following surgery, she was put back on continuous C-HRT. Patient reported good recovery after six weeks after surgery with complete disappearance of her pelvic pain. No atypia or malignancy. The cervix showed endometriosis adenomyomas with a prominent decidualized endometrium with no malignant changes.

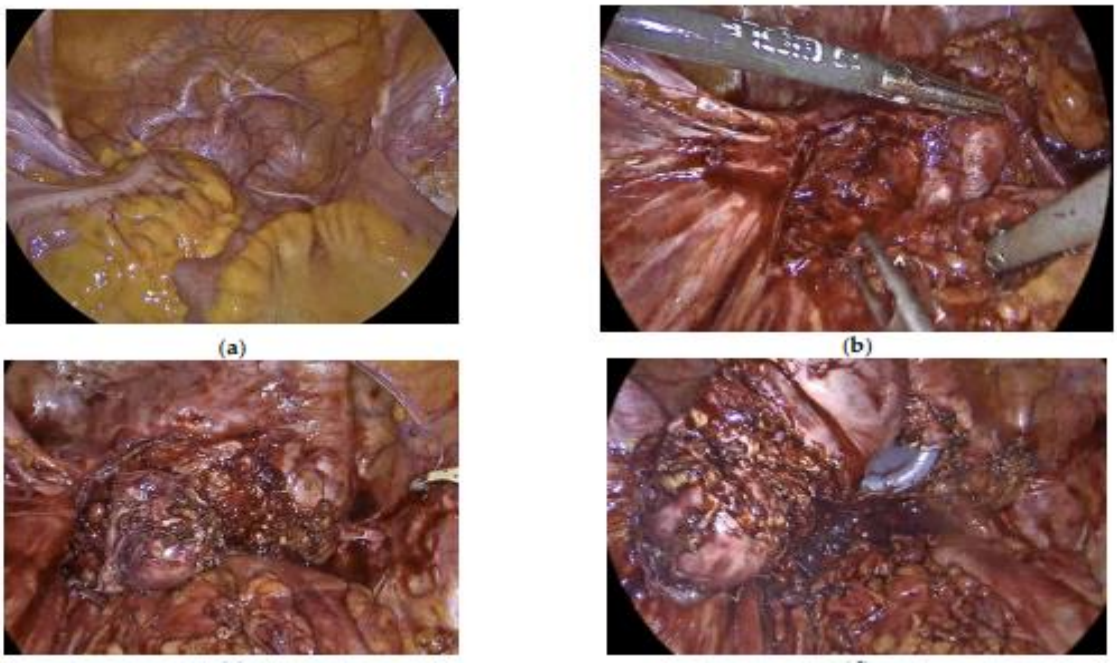

Figure 3 Laparoscopic images of extensive adhesiolysis and excision of peri-cervical endometriomas and cervical stump

Conclusion: This case clearly highlights the real risk of recurrence of potentially severe endometriosis when estrogen only HRT is used.

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This case clearly highlights the real risk of recurrence of potentially severe endometriosis when estrogen only HRT is used.

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