The Effect of Dienogest on Serum CA-125, Interleukin-6 and P53 Protein among Patient with Endometriosis: Proof of Concept Study

Azzry Bin Mohamad[1], Nor Haslinda Abd Aziz[1], Mohamad Nasir Shafiee[1], Norfilza Binti Mokhtar[2], Abdul Kadir Abdul Karim[1], Ani Amelia Binti Dato' Zainuddin[1]

[1]Department of Obstetrics and Gynaecology, Universiti Kebangsaan Malaysia Medical Centre, [2]Department of Physiology, Universiti Kebangsaan Malaysia Medical Centre

ABSTRACT

Objective: Aims of this study were to investigate the outcome of endometriosis following dienogest therapy, and dienogest effects on the serum CA-125, IL-6 and p53 protein levels. **Methods:** This was a proof-of-concept, prospective study, conducted in UKMMC, from August 2017 until May 2018. Women with endometriosis were recruited following histological confirmation after surgery. Pain score was assessed using Visual Analogue Scale (VAS) score pre and 3-months post-treatment. CA-125, interleukin-6 and p53 protein concentration in isolated patients' serum was compared between the pre and post-treatment using enzyme-linked immunosorbent assay (ELISA) method. **Results:** A total of 8 out of 15 (53.3%) women recruited were histologically proven for endometriosis and had either moderate or severe endometriosis. These patients received dienogest 2 mg daily for 3 months. There was a significant reduction in the median VAS score for dysmenorrhea [8.0 (IQR 7.25 – 8.00) vs. 2.0 (IQR 0.00 – 2.00), p=0.011] after 3 months of treatment. The majority of women (87.5%) experience abnormal menstruation as a side effect of dienogest. There was a significant reduction of serum CA-125 protein concentration levels (median) from 719.6 IU/ml (IQR 182.92 – 3087.5) at baseline to 48.43 IU/ml (IQR 35.37 -57.19) at 3 months post dienogest treatment (p=0.012). Also, a significant reduction of serum IL-6 protein concentration level was noted following treatment from the median baseline value of 2.83 (IQR0.94 - 8.39) to the median value of 0.66 (0.26 – 1.64) (p-value= 0.012). No changes noted in the median of serum p53 protein concentration level at baseline and after treatment [2.14 (IQR 1.08 – 4.35) vs. 3.18 (IQR 2.31 – 4.23), p = 0.401]. **Conclusion:** Dienogest, in endometriosis, significantly reduced dysmenorrhoea and suppressed inflammatory markers (CA125 and IL6). However, its role in suppression of p53 was still inconclusive.

KEY WORDS:
Dienogest, endometriosis, Visual analogue score (VAS), dymenorrhoea, serum CA-125, serum interleukin-6 (IL-6), serum p53

Hybrid Simulation Training: A Cost-effective Teaching/Learning Modality for Low-middle Income Countries (LMIC)

Azra Amerjee, Munazza Khalid, Iffat Ahmed, Sheikh Irfan

Aga Khan University Hospital, Karachi, Pakistan

ABSTRACT

Objective: To compare competency of medical students regarding Intrauterine contraceptive-device (IUCD) insertion before and after Hybrid simulation training (HST) and to assess learner satisfaction with this methodology. **Methods:** This quasi-experimental Mixed-Method study was conducted at Aga Khan University, from October 2016 to September 2017 for third-year medical students. Students had interactive session on contraception and were provided with literature/video clip on IUCD-insertion before HST. They were pretested on OSCE-station (IUCD insertion) using simulated patients (SP) and manikin simultaneously. They practiced on manikin and subsequently were post-tested through same OSCE-station. Learner-evaluation of activity was through validated proforma with both, Likert-scale and open-ended questions. **Results:** Out of 90, seventy-three consenting students, completed pre/posttest and evaluation-survey. There was significant increase in pre and post-simulation mean scores for all clinical skills; history-taking (5.1 pretest, 8.8 posttest, p≤0.0005), counseling (40.11 pretest, 57.85 posttest, p≤0.0005), procedural (15.16 pretest, 49.09 posttest, p≤0.0005) and total scores (60 pretest, 115.6 posttest, p≤0.0005), when compared using two-sided Wilcoxon signed rank sum test. Activity was assessed as 'very good' to 'excellent' by 83.5% of participants. Four themes were generated from open ended questions of evaluation-forms; 'Process descriptors', 'Teaching utility', Pedagogic efficacy' and 'Way forward'. **Conclusion:** HST is not only an effective teaching/learning modality with potential to improve competency of medical students, but also relatively cost-effective for LMIC where purchase of high-fidelity simulator may be unfeasible. Although this study may not address long- term students' learning and transferability of competency to real-life situation was not tested but students expressed high satisfaction with this teaching-method.