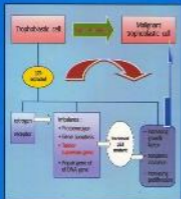


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Profile of Polycystic Ovarian Syndrome Patients in Dr. Cipto Mangrove General Hospital of the World Jakarta March 2009 – March 2010

The Effect of Androg Cells before Laparoscopic Ovarian Cystectomy in Polycystic Ovarian Syndrome with Metabolic Syndrome and Valproic Acid in Polycystic Ovarian Syndrome

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Development of the Indonesian Implant: The Overview of Implant and its Development



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Research Report

Effects of Peritoneal Fluid on Sperm Motility and Viability in Endometriosis

Pengaruh Cairan Peritoneal pada Motilitas Sperma dan Viabilitas pada Endometriosis

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Abstract

Objective: To know the effects of peritoneal fluid on sperm motility and viability in patients with endometriosis.

Design/data identification: This was a laboratory experimental study to peritoneal fluid from endometriosis and non-endometriosis patients who underwent surgery in Dr. Hasan Sadikin Hospital and around with endoscopy facility which fulfill inclusion and exclusion criterias. Experiments was performed in ASTER Fertility Clinic, Dr. Hasan Sadikin Hospital.

Method: Semen samples were normozoospermic of which has been prepared using swim up method with sperm count $3 \times 10^6/\text{ml}$. The sperm were exposed to peritoneal fluid from endometriosis and non-endometriosis patients and analyzed at h 0, 1, 3, 6, and 24 to see the difference of sperm motility and viability postincubation with endometriosis peritoneal fluid. The sperm viability was detected using trypan blue 0.4%.

Result: Exposure of sperm to peritoneal fluid reduced sperm motility significantly from the h 6 observation ($Z_w = 2.17$; $p = 0.03$) and the h 24 ($Z_w = 2.35$; $p = 0.01$). The sperm viability which incubated with endometriosis peritoneal fluid reduced significantly from h 6 observation ($Z_w = 1.99$; $p = 0.04$) and the h 24 ($Z_w = 2.55$; $p = 0.01$).

Conclusion: The endometriosis peritoneal fluid reduced the motility and viability of the sperm began from the h 6 postincubation. This indicate the possibility of involvement of endometriosis peritoneal fluid to infertility.

[Indones J Obstet Gynecol 2011; 35-1: 18-20]

Keywords: sperm motility, sperm viability, endometriosis

Abstrak

Tujuan: Untuk mengetahui pengaruh cairan peritoneum pasien dengan endometriosis terhadap penurunan motilitas dan viabilitas sperma.

Rancangan/rumusan data: Penelitian ini merupakan penelitian eksperimental laboratoris yang dilakukan terhadap cairan peritoneum pasien endometriosis dan pasien bukan endometriosis yang menjalani operasi laparoskopi atau laparotomi di Rumah Sakit Dr. Hasan Sadikin dan rumah sakit yang memiliki fasilitas laparoskopi dan memenuhi kriteria inklusi dan eksklusi. Eksperimen dilakukan di Laboratorium Infertilitas ASTER RS Dr. Hasan Sadikin.

Metode: Sperma yang digunakan adalah sperma yang dipreparasi di Laboratorium Infertilitas ASTER RS Dr. Hasan Sadikin dengan metode swim up sehingga diperoleh sperma berjumlah $3 \times 10^6/\text{ml}$. Sperma tersebut kemudian diinkubasikan dengan cairan peritoneum pasien endometriosis dan tanpa endometriosis. Pemantauan motilitas dan viabilitas sperma dilakukan dengan metode manual pada jam ke 0, 1, 3, 6, 24 pascainkubasi untuk mengetahui perubahan motilitas dan viabilitas sperma. Pemeriksaan viabilitas dilakukan dengan menggunakan pewarnaan trypan blue 0,4%.

Hasil: Motilitas sperma pasien endometriosis menurun secara bermakna pada pemeriksaan mulai jam ke-6 pascainkubasi ($Z_w = 2.17$; $p = 0.03$) hingga jam ke-24 pascainkubasi ($Z_w = 2.35$; $p = 0.019$). Viabilitas sperma pasien endometriosis menurun secara bermakna pada pemeriksaan mulai jam ke-6 ($Z_w = 1.994$; $p = 0.04$) hingga jam ke-24 pascainkubasi. ($Z_w = 2.55$; $p = 0.01$).

Kesimpulan: Cairan peritoneum pasien endometriosis menurunkan motilitas dan viabilitas sperma mulai jam ke-6 pascainkubasi. Hal ini dapat mengindikasikan kemungkinan pengaruh cairan peritoneum endometriosis terhadap infertilitas.

[Maj Obstet Ginekol Indones 2011; 35-1: 18-20]

Kata kunci: motilitas sperma, viabilitas sperma, endometriosis

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INTRODUCTION

Endometriosis is a disease that frequently associated with infertility or a decrease in fecundity though its mechanisms is still a controverson.¹⁻⁴ Fecundity is defined as the probability of a woman achieving a live birth for any given month. In normal couples, fecundity is in the range of 0.15 to 0.20 per month and decreases with age. In untreated women with endometriosis and infertility, monthly fecundity is 0.02 to 0.10.² One of the presume of endometriosis-related infertility was the decrease of sperm motility due the content of the endometriosis peritoneal fluid which is different from non-endometriosis peritoneal fluid.⁵⁻⁸

Peritoneal fluid has been a focus of research on endometriosis because of the extent of information it potentially carries about the disease. The milieu in which the immune mediators associated with the local inflammation of endometriosis can be studied in order to see the relation between endometriosis and infertility. Several authors have suggested that peritoneal fluid from endometriosis inhibits sperm motility.⁹ This contrasts with the findings of other studies.^{7,10,11} All of those studies was conducted using computer-aided sperm analysis (CASA).

The prevalence of pelvic endometriosis widely vary. It is also a reproductive health problem in Indo-