Australian Journal of Basic and Applied Sciences, 5(8): 515-517, 2011
ISSN 1991-8178

Fitz-hugh-curtis Syndrome in Infertile Sudanese Women Diagnosed by Laparoscopy

[1]Wisal O.M Nabag and [2]Mohamed A A El Sheikh.

[1]University of Alziem ALazhari, [2]University of Khartoum

INTRODUCTION

Fitz-Hugh-Curtis (F-H-S) syndrome is a rare disorder that occurs almost exclusively in women as a complication of pelvic inflammatory disease (PID) (Banikarim, C., 2004). Approximately 4-14 percent of women with PID develop Fitz-Hugh-Curtis syndrome (Banikarim, C., 2004). It is usually caused by gonorrhea (acute gonococcal perihepatits) or Chlamydia, which causes a thinning of cervical mucous and allows bacteria from the vagina into the uterus & oviducts. Some organisms travel trasperitoneally from the fallopian tubes to reach the liver surface or via the bloodstream or lymphatic system (Anonymous, 1999). (F-H-S) is characterized by the developed of string-like, fibrous scar tissue (Violin-string adhesions) between the liver and the abdominal wall or the diaphragm.

Chlamydia trachomatis (C.trachomatis) is a curable sexually transmitted (STI), bacterial infection. However, if left untreated; Chlamydia can cause serious problems in men and women, and may lead to infertility. (US National Institute of Allergies and Infectious Diseases, 2009) Laparoscopy as the gold standard for diagnosis of infertility correctly identifies women with confirmed diseases in 65-90% of cases (US National Institute of Allergies and Infectious Diseases, 2009). No single test is highly specific and sensitive for (PID) (Forsey, T., 1986). We describe 3 infertile patients in whom the diagnosis of Fitz-Hugh Curtis syndrome was established by laparoscopy during routine work up of infertility.

Patients and Method:

Patients were usually referred to the Minimal Access Gynecological Surgery (MAGS) Center at Omdurman Maternity Hospital; by gynecologists from our own hospital, other local hospitals, Family Planning Clinics and the private sector for laparoscopy. In the period from January 2007 to December 2010 we conducted more than 800 laparoscopies for infertile patients. Laparoscopy and dye test were performed as day surgery in the standard manner under general anesthesia; among these infertile patients three cases had Fitz-Hugh-Curtis syndrome (per hepatitis); we aspirated the peritoneal fluid and sent it for culture looking for gram positive and gram negative microorganisms; while Chlamydia trachomatis was searched for by means of direct immune fluorescent microscopy. Sugar & protein levels in peritoneal fluid were also measured (Sugar level of <100mg/dl & protein level of >=4.0gm/dl are abnormal) Chlamydia trachomatis antibodies (IgG &IgM) in the serum were also studied by ELISA.

Results:

Three patients with Fitz-Hugh-Curtis syndrome were diagnosed by laparoscopy. The peritoneal Fluids were cultured and were found to be sterile. Cytological studies revealed that there were neutrophils.Their clinical, laparoscopic and laboratory findings are shown in table 1.

The vast majority of cases of (F-H-S) occur in women of reproductive age who have pelvic inflammatory disease (PID) (Frumovitz, M.M., 2006). The common bacterial infection that gives rise to PID & tubal blockage is Chlamydia trachomatis. Infection with this agent can be asymptomatic in up to 80% of women (Blenning, C.E., 2007). PID may produce tubo-ovarian abscess and extend to produce pelvic peritonitis and Fitz-Hugh-Curtis syndrome (per hepatitis) (Anonymous, 1999).The studies of peritoneal fluid showed that it was exudates because it had low sugar, high protein level; with presence of neutrophils which indicate bacterial infection; their laparoscopic findings are indicative of infection .In many studies, half to two thirds of women with proven PID are not infected with gonorrhea or Chlamydia. Anaerobic bacteria and facultative bacteria have frequently been isolated (Lab Tests Online, 2008). Our study showed that the culture of the aspirated peritoneal fluid was sterile. This result might be explained by the fact that if there are no organisms it does not rule out an infection; they may be present in small number or their growth may be inhibited

Corresponding Author: Dr. W. O.M Nabag, Department of obstetric & Gynaecology, Alziem ALazhari University Sudan. Email:wisnab3@yahoo.com

because of prior antibiotic therapy Fitz-Hugh-Curtis syndrome may occur because of an improper immune system response (autoimmunity) to infection with Neisseria gonorrhea or Chlamydia trachomatis (Frumovitz, M.M., 2006).

Table 1: Clinical, laparoscopic,& Laboratory Findings of infertile patients with Fitz-Hugh-Curtis syndrome:

1	25 year	Primary Infertility for 7 years	· Normal uterus · Patent tubes · Poly cystic ovaries(PCO) · No pelvic adhesion	Peritoneal fluid mg/dl *Sugar level=74.0 *Protein level=6.1 Serum antibodies for C. trachomatis: *IgG+ve *IgM+ve
2	28 Year	Primary infertility for 5 years	· Normal uterus · Blocked tubes · Normal ovaries · Massive pelvic adhesions	Peritoneal fluid mg/dl *Sugar level=90.0 *Protein level=4.0 Serum antibodies for C. trachomatis: *IgG+ve *IgM-ve
3	32 year	Secondary infertility for 10 years	· Normal uterus · Blocked tubes · Normal ovaries · Massive pelvic adhesion · Frozen pelvis	Peritoneal fluid mg/dl *Sugar level=80 *Protein level=7.0 Serum antibodies for C. trachomatis: *IgG+ve *IgM-ve

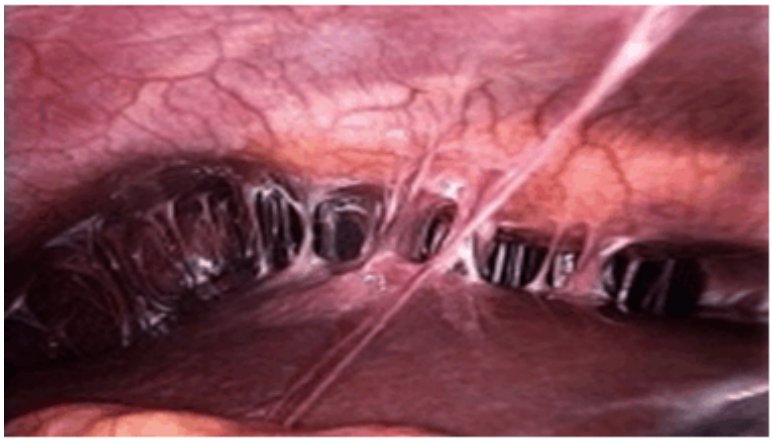

Fig. 1: "Violin-string" adhesions of chronic Fitz-Hugh-Curtis syndrome.

In our case report IgG antibodies for C trachomatis were positive indicating a chronic infection, that give rise to tubal blockage, pelvic adhesion and per hepatitis (H-C S). This result is in agreement with Forsey etal who stated that antibodies of IgG class for C trachomatis are used as marker for previous contact with the organism and tubal disease (Forsey, T., 1986). Individuals with Fitz-Hugh-Curtis syndrome have high levels of antibodies against Chlamydia trachomatis (Frumovitz, M.M., 2006).

IgM antibodies were found to be positive in one patient for C trachomatis this can be explained by recent infection on top of chronic infection. However, it is difficult to estimate whether the presence of specific IgG &IgM antibodies reflects an acute ,chronic ,or a past C. trachomatis infection because little is known how long specific antibodies may persists in individuals with resolved infection (Jorn Siemer, 2008).

REFERENCES

Anonymous, 1999. National guideline for the management of pelvic infection and per hepatitis. Clinical Effectiveness group (Association of Genitourinary Medicine and the medical and the medical society for the study of venereal Diseases). Sexually Transmitted infection, 75: S54-S56.

Banikarim, C., M.R. Chacko, 2004. Pelvic inflammatory disease in adolescents. Adolesc Med Clin., 2: 173-85.

Blenning, C.E., J. Muench, D.Z. Judkins, K.T. Roberts, 2007. "Clinical inquiries. Which tests are most useful for diagnosing PID?" J FAM Pract, 56: 216-20.

Forsey, T., K. Stainsby, P.H. Hoger, *et al*., 1986. Comparison of two immunofluorescence tests for detecting antibodies to Chlamydia trachomatis. J. Epidemiol., 2: 163-164.

Frumovitz, M.M., 2006. Fitz-Hugh-Curtis syndrome. Emedicine Journal, August 28, 2006. Available at: http://www.emedicine.com/med/topic797.htm Accessed on: October 12, 2006

Jorn Siemer, Olive Theile, Yaw Larbi, Peter A. Fasching, *et al*., 2008. Chlamydia trachomatis Infection as a risk factor for infertility among Women in Ghana. West Africa. Am. J. Trop. Med. Hye., 78(2): 323-327.

Lauren Nathan, DeCherney, H. Alan, Pernoll, L. Martin, 2003. Current obstetric & gynecologic diagnosis & treatment. New York: Lange Medical Books/McGraw-Hill.

Lab Tests Online. Peritoneal Fluid Analysis 2008. www.labtestsonline.org/understanding /analytes/peritoneal/test.html.

US National Institute of Allergies and Infectious Diseases, 2009. Fact Sheets (available online at www.niaid.gov/factsheets/stdclam.htm).