Practitioner’s Series

Screening of Endometriosis at an Early Stage: A Simple Clinical Approach

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Here in this study, clinical findings like high up uterus on vaginal examination were found in 242 cases of which some form of endometriosis was found in 156 cases (65%). Among suspected cases of endometriosis following vaginal sonography, 149 (61.5%) could be confirmed in laparoscopy. When these two processes considered together confirmation rate went up to 72.7%.

Key word: Endometriosis, Screening procedure, transvaginal ultra sonography, laparoscopy.

Endometriosis is probably the most focused problem in female infertility. The close association of endometriosis with infertility either as a cause or an effect is an accepted fact. The main problem of endometriosis is that it is progressive disease, which brings anatomical as well as biochemical changes in the reproductive system. Prolonged treatment with ovulation inducing drugs, particularly in high doses, may aggravate the disease in a very short period of time. To avoid such problem it is important to detect the disease at the earliest opportunity. Endometriosis at an early stage is most often silent or produces negligible symptoms. The diagnostic tool till today is laparoscopy. Laparoscopy being an invasive procedure requiring general anaesthesia, cannot be advocated or performed as 1st line of investigation in every patient of infertility. Hence a screening protocol is necessary by which the patients having the possibility of Pelvic endometriosis at an early stage can be isolated. In this study the protocol of screening has been elaborated, which may be useful to isolate the cases having possibility of early endometriosis and who may be subject to laparoscopy as an initial investigation of infertility.
A screening procedure should be simple, less invasive, easy to perform, cheap and cost effective. By screening it means to isolate the cases who should be subjected to the diagnostic procedures. The incidence of endometriosis amongst infertile women is quite considerable. It is not very difficult to isolate the cases with endometriosis in an advanced stage. But early endometriosis is very difficult to detect clinically. The best way to diagnose them is laparoscopy, which is an invasive procedure. Early endometriosis on the other hand produces infertility by different procedures like sperm phagocytosis, ovulatory dysfunction and impairing the maturity of the eggs, as result fertilization rate is reduced\(^1\). Early endometriosis may negatively affect follicular development and oocyte quality\(^2\). Moreover, early Endometriosis due to prolonged ovulation induction may proceed to advanced stages requiring surgical interventions. So it is of immense importance to detect endometriosis at an early stage particularly in infertile patients. Laparoscopy, though the gold standard\(^3\) in diagnosis of endometriosis, cannot be advocated as an initial investigation of each and every patient. Simple clinical screening procedures which are discussed briefly may help to screen out the cases having the possibility of early endometriosis, who should be subject to laparoscopy. The simple procedures include a particular finding on clinical examination along with some specific transvaginal sonography appearances of the pelvic organs. These are the corner-stones for screening early endometriosis. Sometimes some other laboratory findings like lymphocytosis, minimal hyperprolactinaemia and high ESR value might be helpful as adjuvant to the above screening procedures.

**The Study:**

Between January, 1996 to June, 1998, 610 new cases of infertility attended the clinic. Obvious clinical features like severe menstrual pain, ovarian cyst or craggy lump in the in the pelvis were found in 147 women. These were confirmed to be endometriosis subsequently. The newer findings were recorded and corroborated.

Clinical features – In vaginal examination no particular feature may be found specific to early endometriosis, in fact findings of vaginal examination in early endometriosis may absolutely be normal, quite often. If the vaginal examination is conducted very carefully the cervix along with the uterus may be felt very high up in the pelvis and sometimes the cervix is pulled to the posterior fornix or to one of the lateral fornices. This may be due to the shortening of either uterosacral
ligaments or Mackenrodt’s ligaments by endometriotic fibrosis. These clinical findings may be totally asymptomatic or may be associated with some form of menstrual pain. On many occasions uterosacral ligaments may be palpated separately or either of the uterosacral ligament may stand out very prominently with or without little bit of tenderness. Sometimes even under anaesthesia and after full relaxation it may be quite difficult to catch the cervical lip with volsellum as it is very high as a consequence of the uterus being pulled up due to endometriosis affecting the Mackenrodt’s and uterosacral ligaments. From the knowledge of anatomy we know that the uterus is held by Mackenrodt’s as well as uterosacral ligaments from the sides and behind respectively which prevent uterine prolapse. When there is fibrosis and shortening of the ligaments holding the uterus, uterus may be pulled high as opposed to prolapse. This explains the reason behind the above clinical features. The later might happen in early endometriosis. This can also be found when the patients are subjected to subsequent laparoscopy that either of the uterosacral ligament or both are quite shortened and when it happens to one side, the disparity between the compared lengths of two uterosacral ligaments becomes prominent.

Transvaginal ultrasonography – Abdominal sonography is not considered to be the routine screening test due to its low efficacy in detecting pelvic pathology in infertile women with endometriosis in particular. In transvaginal sonography endometriosis at an early stage presents few specific features. Either or both ovaries may be found lying in the Douglas’ pouch in continuity to the uterine shadow, which may indicate that there is an adhesion between them. Sometimes uterus may be found too close to one of the ovaries and away from the other. This is because the uterus may be pushed or pulled to one side due to endometriotic fibrosis. Sometimes it becomes difficult to move the ovary by the transvaginal probe from its position or it may be difficult to find a cleavage between the uterus and the ovary. Sometimes the outline of the uterus may look ragged or irregular or ill defined and ovary may look blurred in USG. This is due to adhesions of the uterine body to the omentum or surrounding structures in the Douglas’ pouch. Sometimes medium size inflammatory blebs may appear as space occupying lesions or irregular empty spaces in the pelvis.

Adjuvant factors - There may be associated features like lymphocytosis or raised ESR. It is reported that PGE$_2$ and oestrogen levels increase in cases of endometriosis. This explains leucocytosis and raised ESR. Patients with Above USG and clinical findings having leucocytosis and/or high ESR may be subjected to diagnostic laparoscopy for confirmation of endometriosis with more certainty. Minimal hyperprolactinaemia without any ovulatory dysfunction is another
association of endometriosis. In hyperprolactinaemia any prolactin value less than 30ng/ml with or without or without clinical features may be associated with endometriosis. In this situation treating endometriosis resolves the problem of hyperprolactinaemia as well.

Ebstein-Bar virus (EBV), herpes simplex virus type 1 (HSV 1), herpes simplex virus type 2 (HSV 2). In the present case, evidence of recent dengue viral infection suggested by seroconversion in IgG blot laws found, despite haemagglutination inhibition (HI) titre remaining stable at 1 : 320 dilution. Earlier report suggests 1 : 80 or higher titre by HI is also indicative of dengue viral infection. Whether this observation is causally related to the disease is not clear, as this part of South Asia has had an epidemic of dengue viral infection in the recent past. Therefore, it may actually be an epiphenomenon. However, the temporal events suggest that this could have been a triggering event for this abnormal immune response leading initially to Kikuchi’s disease and later on to SLE.

REFERENCES


Analysis:

The clinical features like high up uterus on vaginal examination were found in 242 women of which some form of endometriosis was found in 156 yielding 65% accuracy. Amongst the suspected cases of endometriosis following vaginal sonography 149 cases could be confirmed in laparoscopy showing efficacy of 61.5. Other features of high ESR or lymphocytosis or minimal hyperprolactinaemia were not considered as a single or independent parameter. When clinical findings and vaginal sonography were considered together confirmation rate went up to 72.7% that is, increased by nearly 10%.

Comments:

Now the question arises why we have to screen cases of endometriosis before proceeding to laparoscopy for confirmation of diagnosis. With the progress of laparoscopic surgery in the form of cystectomy, adhesiolysis, tubolysis, etc, the surgery may be undertaken following diagnosis at the same sitting. If screening is made beforehand measures may be taken to prepare the patient for laparoscopic surgery if necessary. This may prevent the necessities for 2nd operation and reduce the cost involvement. In this way a cost effective treatment of endometriosis may be planned. Some authorities have advocated use of thinner or mini scopes otherwise called small diameter laparoscopes (SDL) and local anaesthesia to visualise the abdomen. This may be less invasive but less sensitive tool with limited surgical merits for conditions like endometriosis. So it has disadvantage either as a screening or as a diagnostic procedure.

REFERENCES


