

Case of the Week

OVARIAN TRANSPOSITION IN PELVIC CANCERS: FOR LIFE BEYOND CANCER

Pelvic radiotherapy improves oncological outcomes for cancers of many pelvic organs, however, it is associated with ovarian irradiation and premature ovarian failure and menopause. This has a consequence to fertility and hormone preservation in young women who require pelvic radiation for their treatment. Common indications for young women requiring pelvic radiation are cervical cancer, rectal cancer, lymphoma and sarcoma. Laparoscopic ovarian transposition is an established but very much underutilized method to preserve ovarian function.

We present a case of 32 years old woman, diagnosed with High grade diffuse large B cell lymphoma involving the uterine cervix and pelvic lymph nodes. PET scan confirmed absence of any extra pelvic disease. She received the standard chemotherapy protocol for B cell lymphoma with very good response.

She was counseled regarding the harmful effects of radiation on the ovarian function leading to permanent sterility and loss of ovarian hormones. She was given the options of Laparoscopic ovarian transposition for ovarian preservation vs Hormonal Replacement Therapy. She decided to opt for Ovarian transposition.

Laparoscopic ovarian transposition procedure began with a diagnostic laparoscopy thus confirming the absence of any peritoneal or ovarian metastases. The utero-ovarian ligament was divided and the ovary with the fallopian tube was mobilised bilaterally over the infundibulo-pelvic ligaments. The ovary and fallopian tube were transfixed bilaterally in the paracolic gutters, just below the inferior border of the liver on the right side and as high as possible on the left side. The site of transfixation was marked with radio-opaque

ligaclips for radiological confirmation of the site of ovary during RT planning. The postoperative course was uneventful and the patient was discharged on postop day 2.

Review of literature

Effects of cancer treatment on gonads:

Ovaries are very sensitive to pelvic radiotherapy. A radiation dose of 20 Gy will lead to permanent loss of ovarian function. Methods to shield the ovary during pelvic radiotherapy might interfere with treatment and affect the oncological outcomes. Also, the effects of scatter radiation cannot be eliminated completely by shielding the ovary.

Young women when affected with cancer have the burden of dealing with cancer and also the potential harm cancer treatment can cause to the gonadal function. Loss of gonadal function in young women will lead to premature menopause, loss of reproductive and hormonal function and reduced quality of life.

Options for preserving the gonads/ eggs:

Even though exogenous hormonal replacement treatment (HRT) is an option to alleviate the short and long term effects of hormone deprivation, it's not a practical option in a country like India. The long term cost and compliance and inconvenience will have to be considered with HRT. Ovarian tissue cryopreservation, oocyte and embryo cryopreservation is an option but availability, success rate and cost of cryopreservation technique may be a constraint. Also it will not address the issue of premature menopause and loss of ovarian hormones.

Considering all the above factors, ovarian transposition is definitely an attractive and feasible option.

Case of the Week

Historically concerns regarding delay in definitive treatment was due to laparotomy for transposition surgery. However Laparoscopic/robotic ovarian transposition prevents treatment delays, allows early mobilization, reduces the incidence of adhesion formation and ovarian cysts. The success of the procedure depends on the distance of transposed ovaries from radiation field. Ovaries are exposed to less than ten percent of scatter radiation when positioned 3 cms away from the pelvic brim. Laparoscopy allows ovaries to be transpositioned more than 3 -4 cms above umbilicus rather than just above the pelvic brim. Success rates can be improved by preventing torsion and gentle handling of infundibulopelvic ligament.

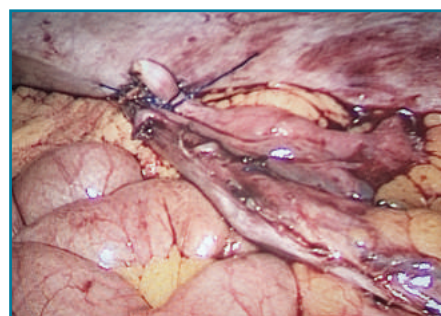
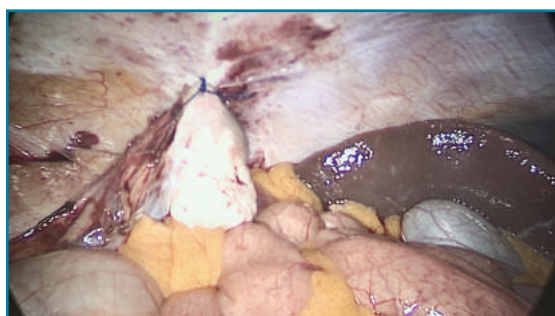
The success rate of ovarian transposition quoted in literature is variable from 50 to 80%. The varying success rate is attributed to positioning of the ovaries just above the pelvic brim especially in open surgery, effects of scatter radiation, diminishing primordial follicle reserve in aging women and so on. The safety and success rate of ovarian transposition in preserving hormone function has been widely described in young women with early cervical

cancer. However, ovarian conservation with Laparoscopic B/L ovarian transposition is still grossly underutilized in young women with non-gynecological malignancy requiring pelvic radiation.

The publications on fertility and pregnancy rates are still low. Due to advances in fertility treatments along with surrogacy and biological donation of ovum with surrogacy, it's all the more important to discuss options with any young lady who presents with good prognostic cancer requiring pelvic radiotherapy.

In conclusion, laparoscopic ovarian transposition is a safe and most feasible ovarian preservation option to be considered in young women requiring pelvic radiation for their cancer treatment.

It involves onetime cost (as compared to recurring cost involved with egg/embryo cryopreservation, long term treatment with Hormone Replacement Therapy), does not involve any delay in the definitive treatment (as compared to delay inherent with ovarian stimulation protocols for cryopreservation), has the advantage of preserving both the eggs and the ovarian hormones.



SURGERY AT APOLLO HOSPITALS IS SAFE

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