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POSTERIOR PELVIC EXENTERATION: EVOLUTION FROM PALLIATIVE TO DEFINITIVE MODALITY FOR LOCALLY ADVANCED RECTAL CANCER

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ABSTRACT
Pelvic exenteration is a supramajor radical surgical procedure first described in 1948 by Brunschwig for locally advanced pelvic neoplasm.[1] Colorectal carcinoma is the fourth most common cancer found in woman and second most common in man.[2, 3] The rectum is the most frequent site involved. More than 50 % of the rectal cancers are presented as locally advanced stage which carry poor prognosis. The procedure was used mostly for palliative intent and carries high morbidity and mortality. But with advent of neoadjuvant treatment protocols and drugs (multidisciplinary treatment), improvement in surgical skills and technologies posterior pelvic exenteration becomes definitive treatment for locally advanced rectal cancer which carries less morbidity and mortality with improvement in oncological outcome.

KEYWORDS: Posterior pelvic exenteration, locally advanced rectal cancer, carcinoembryonic antigen, contrast enhanced computed tomography.

INTRODUCTION
In 1948, Brunschwig suggested multivisceral pelvic resection for advanced pelvic neoplasm.[1] After exenteration in reconstruction phase, there was ureterosigmoidostomy for urinary diversion and colostomy for gut diversion. The procedure was mostly palliative and carried high morbidity and mortality. By the time, improvement in surgical skills and technology, better neoadjuvant protocols and drugs, better plastic and urosurgical reconstructive techniques, better techniques morbidity and mortality have been decreased and improvement in oncological outcome.

Case Report
A 41 yrs old female patient was presented with complaints of bleeding per rectum, abdominal pain, and alternate diarrhoea and constipation. On per abdominal and per rectal examination no abnormality detected. Routine blood tests were normal including liver and kidney function test. She was advised colonoscopy, contrast enhanced CT abdomen and pelvis and CEA (Carcino Embryonic Antigen). Findings of initial CT were thickness of rectosigmoid colon was 14 mm and that mass was also abutting on left adnexal structure with multiple subcentimetric lymph nodes in perilesional, para rectal, para aortic regions. CEA level was 60 microgram per litre (normal range 0-2.5 microgram per litre). The colonoscopy report was suggestive of mass at rectosigmoid junction 16 cm from anal verge and biopsy of that mass was suggestive of adenocarcinoma. The reports were suggestive of locally advanced cancer of rectosigmoid. Proximal diverting colostomy was performed. Thereafter she was sent for oncophysician's opinion where she was started on three cycles of CAPOX (capacitabine and oxaliplatin) three weeks apart followed by six cycles of FLOX (5-florourecil, leucovorin, oxaliplatin) three weeks apart. At the end of neoadjuvant treatment CEA and CECT were repeated. Contrast enhanced CT scan was suggestive of 8.5 mm thickness of rectosigmoid and CEA level was 5.75 microgram per litre. After that posterior pelvic exenteration was performed. Postoperative course of the patient was uneventful. The patient was discharged on tenth postoperative day. Six monthly CEA and abdominal ultrasound were satisfactory and no abnormality detected.

DISCUSSION
Posterior pelvic exentration was performed as a palliative modality and was not considered as safe but with the help of improved surgical skills and better imaging technologies the mortality is reduced from 20% to 5% now a days with posterior pelvic exenteration.[4] The morbidity by literature is approximately 50% (20% to70%)[1] The main complications are leak from gut or urinary anastomosis, infection (abscesses), anastomotic

fistulas, thromboembolism, wound dehiscence etc. The five year survival rates are from the literature 35% to 70% depending upon the type of tumor.[1] In locally advanced rectal cancer mean survival is 47 months.[1] Pelvic recurrence in carcinoma rectum can also be operated by posterior pelvic exenteration but the mean survival is 26 months.[1] By literature the five year survival rate is 0% to 23% only. The factors affecting five year survival are R0 resection, lymph node positivity and lymphovascular invasion in histopathological examination report.[1] Local recurrence after surgery for carcinoma rectum is 6-10%.[5]

En bloc resection carries five year survival rates of 61% than just separation of the tumor from the adjacent organ which carries five year survival rates of 23%. Means exenteration almost doubles the five year survival rates. Positive tumor margin on histopathological examination means R1 or R2 resections carry five year survival rate of 12 months. Palliative surgeries for carcinoma rectum carry five year survival rates of nine months. Without surgery patient survives for 13 months. In case of, R0 resection and lymph node negativity 53% patients survived for five years.[1]

Types of Pelvic exenteration

Anterior pelvic exenteration includes monoblock resection of central pelvic organs along with lower urinary tract (bladder and ureter). Posterior pelvic exenteration includes monoblock resection of female genital organs with rectosigmoid. Total pelvic exenteration includes both anterior and posterior exenteration.[3] In total there are supralevator and infralevator type. In supralevator variety pelvic floor is preserved along with sphincter apparatus. In infralevator variety entire sphincter apparatus is removed with inferior vagina, vulva, perineum, including anus and urethra. Extended pelvic exenteration includes resection of sacrum and/or lateral pelvic bony walls along with routine exenteration.[5]

Exenteration is absolutely contraindicated in vascular (iliac vessels) involvement, bilateral ureteral involvement, bony invasion, nervous involvement, paraaortic involvement, distant metastasis, ASA grade 3 and grade 4 patients, extension through greater sciatic notch, lower limb edema. It is relatively contraindicated in advanced age, morbid obesity, invasion above S2 S3.[2]

ASSESSMENT

Patient assessment starts with history and clinical examination including per rectal, per vaginal examination and examination under anesthesia. Endoscopic evaluation of entire colon including biopsy confirmation of the abnormal lesion. Radiological imaging includes MR Pelvis with carcinoma rectum protocol, TRUS, PET-CT. Tumor markers including CEA, CA 19-9. Histopathological assessment after surgery.[2]

Neoadjuvant Modalities[2,3]

Neoadjuvant chemotherapy protocols include FLOX (5-flurourecil, leucovorin oxaliplatin), CAPEOX (capacitabine and oxaliplatin), FOLFOX (5-flurourecil, leucovorin oxaliplatin). Neoadjuvant radiation treatment includes EBRT of 45GY in 25 fractions for five weeks with 5FU based chemotherapy. With neoadjuvant chemoradiation up to 60% of locally advanced rectal cancer and specifically 55% of T4 tumors can be down staged.[3] Reassessment with imaging for resectability before posterior pelvic exenteration.

Followup after surgery

Six monthly evaluation with history and clinical examination for two years followed by annual assessment. CT chest, abdomen, and pelvis after completion of adjuvant treatment followed by annual basis. CEA six monthly for two years followed by annually thereafter.

Reconstruction:

Urological reconstruction includes ileal conduit and ureteroileostomy and bladder augmentation procedures.[2] Plastic surgical reconstruction aims at restoration of anatomy and prevention of complications like hematoma, abscesses, pelvic floor prolapse.[2] The methods included in plastic surgical reconstructions are omentoplasty, porcine dermal collagen implantation, local advancement or rotational flaps.

CONCLUSION

Posterior pelvic exenteration for highly selected patients carries high morbidity and mortality but with advanced imaging, neoadjuvant protocols, improved surgical skills the better oncological outcome and better quality of life can be achieved mainly in R0, node negative, without lymphovascular invasion.[1]

REFERENCES

1. Pelvic exenteration for locally advanced primary and recurrent pelvic neoplasm: a series of 54 resectable cases. Sergio Renato pais costa,ricardo cesar pinto antunes ,Renato arioni lupinacci.
2. Selection Criteria for the Radical Treatment of Locally Advanced Rectal Cancer, Mansel Leigh Davies, Dean Harris, Mark Davies, Malcolm Lucas, Peter Drew, and John Beynon.
3. Extended Surgery and Pelvic Exenteration for Locally Advanced Rectal Cancer What are the Limits? Smith, J. D.; Paty, P. B.
4. Posterior pelvic exenteration for primary rectal cancer, G. C. Bannura , A. E. Barrera, M. A. G. Cumsille, J. P. Contreras, C. L. Melo, D. C. Soto and J. E. Mansilla.
5. Pelvic Exenteration: Surgical Approaches; Jim Kim.