Management of recurrent rectal carcinoma

Essay

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Diagnosis of recurrent rectal cancer

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Identification of rectal cancer recurrence is a prerequisite for successful management . the major limitation to assessing the therapeutic benefit of reoperation in this setting is the inability to stage accurately the extent of recurrent disease **(Eckhauser and knoll,1997).**

less than half of all recurrences are detected at the time of a clinic visit and more than half of by other physicians, between visit, consulted as a result of the development of new symptoms **(Sager and pemberton,1996).**

1-Clinically

Symptoms and signs associated with pelvic recurrence are related to the type of the original procedure performed .

Invasion of the rectal lumen by recurrent disease after anterior resection will cause rectal bleeding and a change in bowel habit since access to the pelvis is easier after sphi-ncter- saving procedures than after abdominoperineal excis- ion of the rectum .

Detection of recurrence can be made at an earlier stage . Recurrence may be felt on digital rectal examination and biopsy performed **(Sager and Pemberton, 1996).**

Therefore, it is vital that physician ask detailed questions concerning the frequency and characteristics of bowel movements in an attempt to specifically elicit any seemingly minor yet important hint to the presence of local recurrence.

Even when patients admit to an alteration in their diet as the probable cause of changed bowel habits, the evaluating physician must always suspect and rule out a local recurrence **(Manning and Edelstein, 2000).**persistent perineal or sacral pain is an ominous sign as is sciatica-type pain which may indicate invasion or encasement of the sacral plexus. Direct bladder infiltration will cause bladder dysfunction, while lymphatic infiltration leads to oedema of the lower limbs. Induration, a mass or persistent drainage from a perineal sinus may all develop after abdominoperineal excision, secondary to recurrent disease **(Sagar and Pemberton , 1996) .**

Analysis of local recurrence in the Stockholm rectal cancer trial , for instance , revealed that pain was the dominant symptom (62 %) followed by a disturbances in micturation (26%) rectal or vaginal bleeding (18%) , altered bowel habit (14%) rectal or vaginal discharge (11%), fistula (7%) .ileus (5%) and uremia (4%). In that trial ,only 17% of patients who underwent reoperation were able to have their tumor completely removed,

macroscopically . this suggests that the presence of symptoms is an indicator of more advanced disease. By contrast, in **Schiessel's study (1986),**42% where able to undergo radical reoperation resulting in microscopically clear margins **(Temple and saettler,2000).**

Local recurrences were classified asymptomatic(So) , symptomatic without pain (S_1) and symptomatic with pain (S_2) **(Suzuki et al., 1996).**

Local recurrence was categorized by degree of fixation to surrounding organs or structures according to the surgical or pathologic findings as follows: F_0 (no site), F_1 (first site), F2 (tow sites) and F_3 (three or more sites) of fixation among the four sites : anterior adjacent organs, right or left lateral pelvic side walls and posterior(sacrum or coccyx). These criteria are related to the horizontal spread of recurrent tumors, and patients with tumors confined to the perineum (caudal spread) or small bowel (Cephalad spread) were classified as stage F_0 **(Suzuki et al,.1995).**

farouk et al.(1998) have chosen to modify the fixation schema of **Suzuki ET AL,. (1996)** to indicate whether the disease is not fixed (f0), fixed but resectable (F.R) or fixed and not resectable (FNR). Typically , FNR disease involves the pelvic sidewalls or proximal sacrum whereas FR disease may extend into the surrounding structures such as the uterus, bladder, or distal sacrum.

Physical examination:

A through physical examination is essential in the evaluation of a pelvic recurrence in order to exclude extrapelvic disease that may prohibit radical pelvic surgery. Athrough abdominal examination should be performed to exclude an enlarged liver or abdominal mass . Examination of the groin and supravicular region is required to exclude adenpathy.

Assessment of neuromuscular function in the lower exterm- itites can suggest tumor invasion from lateral recurrences.

In patients after a sphincter-saving resection, a rectal examination is essential for assessing the extent of pelvic disease, and to properly categorize the recurrence into one of the four mentioned categories. Female patients require a bimanual pelvic examination to identify disease involvement of the rectovginal septum, vagina uterus and adnexal structures. Similarly, vaginal examination in females with a perineal recurrence after an abdominoporieneal resection can significantly contribute to the assessment of disease involvement **(Guillem and Rue, 1998).**

Abulafi and Williams (1994) noted that only 15-25% of patients with asymptomatic recurrence were detected by clinical examination.

2-**laboratory studies:**

Routine CBC and LFT analysis is often performed but can not be specifically recommended **(Manning and Edelstein,2000).**

***Carcino Embryonic Antigen (CEA):**

Some studies have demonstrated that a continuous rise in serum CEA level predicts recurrence in 58-95% of asymptomatic patients.

In addition, the pattern of the rise of serum CEA concentra- tion is thought to be indicative of the nature of recurrence . slowly rising CEA levels are suggestive of local recurrence, whereas a sharp and steep rise in concentration is usually associated with disseminated disease. On the other hand , in 10-30%of cases serum CEA levels remain constant despite proven recurrent disease. In addition, non-specific transient rises in CEA level can occur with smoking, pulmonary conditions, inflammatory conditions of the gastro-intestinal tract and impaired liver function **(Abulafi and Williams,1994).**

Unfortunately, although a CEA elevation may be a sensitive indicator of recurrence in this group of patients a normal CEA in these same patients is a very insensitive

indicator of no recurrent disease . That is, in a patient whose elevated CEA normalize after initial treatment, continuing normal CEA levels does not ensure the absence of recurrent cancer, because many recurrent tumors do not produce detectable elevations of CEA even when the primary lesion did. In-patients whose primary tumor did not produce elevated CEA, monitoring blood CEA levels seems unnecessary and wateful because the occurrence of CEA producing metastases in such patients is a rarity. Likewise, following CEA levels in patients whose elevated CEA did not normalize after initial therapy is of no apparent benefit **(Manning and Edelstein,2000).**

This was proved by **Midis and Feig (1999)** who reported that 20-30% of patients with locoregional recurrent tumors have a normal CEA level. Poorly differentiated tumors may not make CEA, which is one explanation for such false-negative results. In contrast, CEA is elevated in 80-90% of patients with hepatic recurrence.

3- Endoscopic evaluation:

rigid simgomidoscopy is useful in individuals who have undergone an initial sphincter saving operation . It can document the distal most location of the recurrence relative to the upper most part of the anorectal ring.

Palpating with tip of the sigmoidoscope to assess the extent of pelvic sidewall involvement can distinguish this from a true axial anastomotic recurrence. A complete colonoscopy should be performed per-operatively to rule out synchronous proximal disease before any radical surgery for surgery for rectal cancer recurrence **(Guillem and Ruo, 1998).**

4- Radiologic Evaluation and diagnosis:

A variety of radiologic imaging studies can be used in the follow up of rectal cancer patients. There is currently no uniformly accepted protocol for the use of imaging studies. The use of different modalities varies along with the changing treatment approaches for the primary disease **(Manning and Edelstein,2000).**

Imaging studies should include an initial computer tomography C.T scan of the chest, abdomen and pelvis, preferably with intravenous and oral contrast extra-pelvic disease as well as to assess the extent of local involvement. In cases of suspected done invasion, a bone scan is recommended by some authors because diffuse marrow involvement may be indicative of unresectable disease **(Guillem and Ruo, 1998)**.

The following imaging modalities may be helpful in the pre operative work up of a rectal cancer recurrence :

1- Computerized tomography (C.T) scan:

Accurate radiographic imaging allows the assessment of loco-regional tumor extension necessary to predict the potential for obtaining negative margins and the need for adjacent organ resection. CT or MR imaging of the abdomen and pelvis and chest radiography accurately identify visceral metastases, small pertained and lymph node metastasis. However may not be evident on CT or MR imaging **(Windham et al,.2000).**

CT taking 5 mm cuts will identify extrapelivic disease particularly in the lung and liver, as determine the extent of pelvic involvement. Findings suspicious for local recurrence include asymmetric thickening of the bowl wall, obliteration of perianastomotic fascial or fat planes, a presacral or pelvic side wall mass, and enlarged regional lymph nodes. Postoperative or postradiation chemotherapy changes may lead to fibrosis and changes within the perirectal fat indistinguishable from a true recurrence. Comparison of serial pelvic C.T scans after the initial surgical procedure may be helpful in differentiating recurrences from postoperative changes **(Guillem and Ruo,1998).**

C.T is limited in identifying lymph node metastases and locoregional recurrence of rectal cancer with an accuracy of only 40-to45% and a sensitivity of 22% to 36% **(Guillem and Ruo,1998).**

The main problem is the difficulty in detecting microscopic invasion of perirectal fat and determining the presence of metastatic foci within normal sized

lymph nodes. A mass of soft tissue density on C.T may be due to recurrence of tumor or granulation tissue ,haemorrhage or fibrosis in addition radiation therapy may lead to streaky densities or a per-sacral mass **(Sagar and Pemberation, 1996).**

From the resectability point of view **Farouk et al,. (1998)** with regard to the extent of pelvic disease in 77 patients, C.T identified disease as not being fixed (stage F0) in 3 patients, fixed but grossly resectable in 72(stage FR) and fixed but not respectable (stage FNR) in 2 patients. This compared with operative findings of disease being not fixed in9 patients, fixed but resectable in 55 and not resectable in8 patients. Five additional patients had diffuse peritoneal disease, and resection was not attempted. The accuracy of C.T was first examined for its ability to predict the need for adjacent organ resection in seventy one evaluable patients who underwent resection. Based on C.T, a partial or total cystectomy was planned preoperatively in 24 patients, hysterectomy in 9, iliac vessel reconstruction in 2, and

sacrectomy in 20 patients. Based on operative findings a partial cystectomy was performed in 5 patients, a total cystectomy and ileal conduit formation in 1, ureteral resection with reanastomosis in 4, resection of seminal vesicles alone in 1, hysterectomy and bilateral salpingooophrectomy in 9, and iliac vessel excision with reconstrution in 3 patients. Partial sacrectomy was performed in 18 patients and removal of the anterior sacral table in 2. In addition to this, a small bowel resection was performed in 8 patients and appendicectomy in 1 patient because of adherence to pelvic tumor. Computed tomography was extremely accurate in determining the need to perform sacrectomy (100% sensitivity and specificity) and hysterectomy (100% sensitivity and specificity) but tended to overstage the need for partial or total cystecomy (sensitivity 93%, specificity 82%). Only 1 patient had an unplanned partial cystectomy, however, because of unsuspected extension of disease that had not been detected by C.T.

When a pelvic recurrence is suspected, a C.T. scan