



Review Article

Current paradigms in rectal cancer



Sheikh Mohammad Taha Mustafa*, Vinod Malik

Department of General Surgery, Sir Ganga Ram Hospital, India

ARTICLE INFO

Article history:

Received 23 February 2017

Accepted 17 March 2017

Available online 12 April 2017

Keywords:

Rectal cancer

Colon

Neoadjuvant

Chemo radiation

ABSTRACT

Rectal cancer is one of the leading causes of morbidity and mortality in the world. It is more common in Western nations than eastern nations (except Korea). Because of its location rectal cancer is unique in its presentation and natural history. The decision-making in the treatment of rectal cancer is not as straight forward as colon cancer. It requires an in depth understanding of the anatomy and knowledge of tumor biology to formulate a successful rectal cancer management plan. Often training in the field of colorectal surgery has been shown to have better patient outcomes. Also with the advent of newer methods of treatment like TAMIS and Ta TME and not to forget laparoscopy and robotics has made the treatment of rectal cancer more exciting. It is often challenging for the physician to decide whether to offer a neoadjuvant chemo radiation to the patient or surgery as first option. In these scenarios multidisciplinary tumor board meetings go a long way in helping evidence based decision-making. Now a days the surgeon treating rectal cancer should be familiar with more than one method of doing an operation. A hybrid approach where a surgeon can combine lap/open/robotics/TAMIS or Ta TME seems to be the way forward.

© 2017 Published by Elsevier, a division of RELX India, Pvt. Ltd on behalf of Sir Ganga Ram Hospital.

"A patient with rectal cancer is analogous to ordering a hand-tailored suit rather than accepting an off-the-rack product". – E. LeslieBokey¹

USA the incidence of colorectal cancer is 34.1 per 100,000 population in males and 25 per 100,000 annually in females.⁵ Where as in India the incidence is 4.3 per 100,000 in males and 3.9 per 100,000 in females annually.^{2,6}

1. Magnitude of Problem

Cancer of colon and rectum is one of the major health problems all over the world. In men it is the third most common cause of cancer and contributes to 663,000 cases (which constitute 10% of total cancers). Among women cancer of colon and rectum is the second common cause of cancer and contribute to 571,000 cases (which constitute 9.4% of all cancers). Together they contribute to more than one million cases per year. Worldwide the mortality from colon and rectal cancer is approximately 608,000. Those regions and countries in the world which have Western life style and food habits happen to contribute 60% of all cases of colon and rectal cancer.² United States is the only developed country where the incidence of colon and rectal cancer is on a downward trend. This may be due to the better screening rates.^{3,4} India has lower incidence of colorectal cancer compared to high incidence countries like United States. In

2. Definition of rectum

Rectum is variable in its absolute length, but is often referred to as that part of large gut extending up to 15 cm from anal verge.⁷ Hence, with this Gray's anatomy definition rectal cancer can be referred to as a malignant lesion located within 15 cm from anal verge as viewed by rigid proctoscope.^{8–10} If the tumor is within 8 cm from the anal verge it can be called as a distal rectal cancer. If the cancer is from 8 to 12 cm from anal verge it is said to be in the mid rectum. If the cancer is from 12 to 15 cm from anal verge it is known as upper rectal cancer (Fig. 1).

3. TNM classification¹¹

The most widely used classification of malignant neoplasms of rectum is the American Joint Committee on Cancer's TNM (Tumor, Node, Metastasis) classification system. Although 8th edition was released in 2016 but its implementation schedule is from 1st January, 2018.⁸

* Corresponding author.

E-mail address: sheikhtaha23@gmail.com (S.M.T. Mustafa).

- cTNM refers to the clinical classification
- uTNM is the endorectal ultrasound staging
- pTNM refers to the pathologic classification
- yTNM refers to the post neoadjuvant therapy assessment
- rTNM is used when disease recurs after a disease free interval.

4. Diagnosis

Most patients with rectal cancer are diagnosed after colonoscopy when patient complains of rectal bleeding. In some cases, diagnosis is made on a screening colonoscopy. When the cancer is in lower rectum often diagnosis can be made on digital rectal examination and subsequent biopsy. Whenever a lesion is seen it should be biopsied.⁹

4.1. History

Patients with rectal cancer can have a broad range of clinical presentations. Rectal bleeding is often mixed with stools or may coat surface of the stool. Some patients can have decreased stool caliber, increased stool frequency or mucous with stools.

A cancer specific history (e.g. family history or history suggesting HNPCC- Hereditary Non Polyposis Colon Cancer) should be taken. This information can guide the clinician to look for associated pathology or metastatic disease and initiate additional work up. If family history is suggestive of increased susceptibility to colorectal cancer then patient may need to be referred for a genetic counseling.

Fitness for surgery also has to be assessed (Evidence level 1B).^{8,9}

4.2. Risk assessment

Nearly 20% of cases of colorectal cancer can be associated with familial clustering. First degree relatives of patients with colorectal cancer or adenomas are at increased risk for colorectal cancer. 2–4% of all colorectal cancers are HNPCC. This syndrome results

from mutations in DNA mismatch repair (MMR) genes (MLH1, MSH2, MSH6, and PMS2). Many NCCN (National Comprehensive Cancer Network) members including US Multi-Society Task Force recommend universal MSI (microsettalte instability) testing should be done in all patients who have been diagnosed with colorectal cancer for the first time.¹¹ MSI is tested on the tumor specimen. Patient's with Ulcerative colitis and Crohn's disease are at increased risk for developing colorectal cancer.⁹

Smoking more than 20 cigarettes per day over a period of decade is an independent risk factor for colorectal cancer. This was found in huge cohort study on more than 22,000 healthy physicians aged 40–84.¹⁰

Aspirin and nonsteroidal anti-inflammatory drugs have been shown to be effective in the chemoprevention of colorectal cancer. These drugs decrease the risk of adenoma formation as well as the incidence and mortality of colorectal cancer.^{8,11}

4.3. Physical examination (Evidence level 1C)

Digital rectal examination (DRE) and rigid proctoscopy are essential in making a decision about the future course of action in patient with rectal cancer. DRE can also tell us whether the tumor is tethered or fixed and its relationship with sphincters and anorectal ring. A careful assessment of prostate in men and pelvic examination in women is essential. Proctoscopy can accurately determine the distance between distal tumor margin and anal verge and dentate line. Sometimes examination under anesthesia may have to be done if the patient is in pain.⁹

4.4. Blood workup

Patients with rectal malignant neoplasms should undergo a complete blood count, liver function test and renal function tests. CEA (Carcinoembryonic antigen) levels have to be measured to know the baseline value. Any additional tests are advised as per the requirement of the anesthetic team and per fitness of the patient.⁹

4.5. Colonoscopy (Evidence level 1C)

The incidence of synchronous cancers is (2–9%). The incidence of synchronous polyps is 30%. Hence every patient should undergo a complete colonoscopy after diagnosed with rectal cancer. If colonoscopy is incomplete, then a double contrast barium enema or a CT colonography should be done. If preoperative colonoscopy has not been done due to, for e.g. obstruction then early post operative colonoscopy (3–6 months) is recommended.^{8,9}

4.6. Imaging studies (Evidence level 1B)

Endorectal ultrasound (ERUS) provides valuable preoperative staging. It can tell us about the depth of tumor invasion into the rectal wall (89–92% accuracy) and nodal enlargement (79% sensitivity).¹² It is especially useful in assessment of T1 and T2 lesions. It is of less use in accurate staging of large lesions (T4 stage) and stenotic lesions.

ERUS is performed by using a radial probe with high frequency usually 10 Hz (Fig. 2). This gives a 360 images of the rectal wall. In most centers around the world, it is the colorectal surgeon who performs the ERUS. The prefix u is used to describe ultrasound staging of rectal cancer (Fig. 3).^{13,9}

4.7. Role of MRI (Evidence level 1B)

High resolution MRI with endorectal coil exhibit a similar accuracy as ERUS for detecting depth of invasion and nodal status. It is also useful in detecting the involvement of circumferential

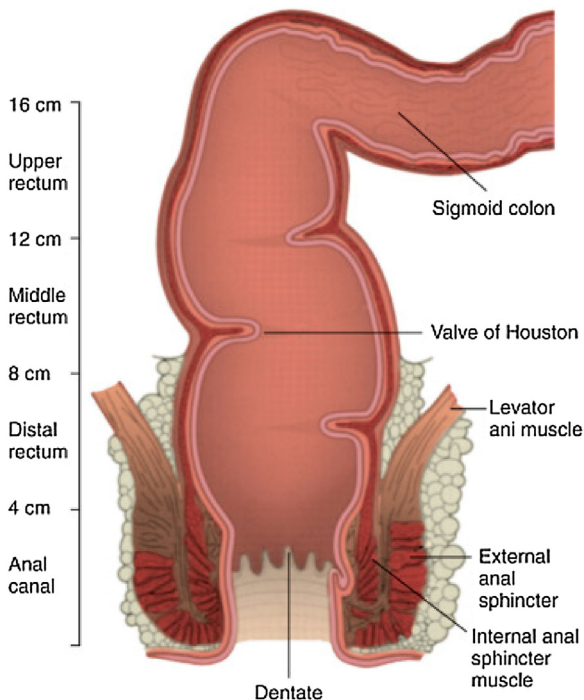


Fig. 1. Anatomy of the rectum.

From Current Surgical Therapy, 12th Ed. 2017. David A. Kleiman, Jose G. Guillem.

Download English Version:

<https://daneshyari.com/en/article/5601425>

Download Persian Version:

<https://daneshyari.com/article/5601425>

[Daneshyari.com](https://daneshyari.com)