

RECTAL CARCINOMA TO DELTOID MUSCLE – A MUSCULOSKELETAL METASTASIS

Dr. Rahul Poonia

Dr. Divya Sharma

Dr. Saurabh Gupta

ABSTRACT

Metastasis in advanced rectal carcinoma is common and is usually seen to liver. Nevertheless, few cases of muscle metastasis have been reported in the past. In this case report, we are reporting a rare case of metastasis from adenocarcinoma of rectum to deltoid muscle and a review of previously reported cases. A middle aged men diagnosed advanced rectal cancer for which he previously operated for diversion sigmoidostomy. Then undergone course of chemotherapy and radiotherapy. After some time during the course he presented with left upper arm swelling which after excision suggest tissue originated from rectal adenocarcinoma. Patient died of carcinoma after one year and six months.

KEYWORDS :

Case:

An averagely built, 56-year-old Hindu gentleman hailing from a small village of Haryana was admitted to Sawai Man Singh Hospital, Jaipur, Rajasthan on 12th April 2021, with complaint of left deltoid swelling. Patient was an operated case of "Adenocarcinoma of rectum".

The swelling was first noticed three weeks ago and it was gradually increasing in size. There was no associated pain, fever or other lumps.

On examination the swelling was found to be 4 cm x 5 cm in dimensions. The swelling did not have ulcerative or inflammatory changes. It was non-tender with no local rise of temperature. It had firm in consistency with ill-defined margins. Swelling was not fixed to the overlying skin & without discoloration.

On further examination it showed no loss of sensations or weakness distal to swelling. Shoulder joint had no restriction of movement in all planes. In relaxed posture, the swelling was movable; but on abduction of arm, the mobility of swelling was significantly reduced in all directions.

Past history:

Patient first presented with altered bowel habits and bleeding per-rectum on 20th oct 2020. During clinical work up, the patient was found to have an elevated CEA (carcino embryonic antigen) of 30ng/ml. The Sigmoidoscopy revealed a large, ulcerated mass in distal rectum with luminal narrowing; biopsy of this showed a moderately differentiated adenocarcinoma.

On radiological examination, CECT showed a circumferential growth in anorectal wall with nearly complete luminal narrowing involving 8.7cm of segments length with about 19mm thickness. Mass was exophytic in nature. Additionally, fat plane with prostate was lost.

The lesion involved lower part of sigmoid colon. Patient had history of asthma for 17 years and was on treatment for the same (formoterol fumarate & budesonide). Diversion sigmoidostomy was performed followed by radiotherapy (28 cycles) and 3 cycles of chemotherapy (CAPOX -capecitabine & oxaliplatin), which were well tolerated.

On 13th march 21, LAR was performed with all routine blood investigation (Hb:12.4gm/dl, TLC:9.61k/cu mm, Platelet count:1.41lakhs/cu mm) and the other biochemical and organ function tests normal. A month later, patient comes with complaint of swelling in left deltoid muscle.



Fig. swelling in left deltoid region Fig. post Operative

Investigations:

RADIOLOGICAL =CECT showed a circumferential growth in anorectal wall with nearly complete luminal narrowing involving 8.7cm of segments length with about 19mm thickness. Mass was exophytic in nature. Additionally, fat plane with prostate was lost. The lesion involved lower part of sigmoid colon.

Previously sigmoidoscopy revealed a large, ulcerated mass in distal rectum with luminal narrowing; biopsy of this showed a moderately differentiated adenocarcinoma Recent routine blood tests, other biochemical and organ function tests were unremarkable.

CBC=Hb: 14.1 gm/dl, TLC: 9.68 k/mm³, Platelet count: 3.70 lakhs/mm³

BIOCHEMICAL=

RBS: 73 mg/dl, Urea: 29 mg/dl, S. Creatinine: 0.72 mg/dl, S. Na⁺: 140 mmol/L, S. K⁺: 3.21 mmol/L, S. Cl⁻: 102 mmol/L, SGOT: 21 IU/mL, SGPT: 30 IU/mL, S. Bilirubin total: 0.9 mg/dL, S. Bilirubin direct: 0.3 mg/dL, S. Alk. Phosphatase: 64 mg/dL, S. Amylase: 108 mg/dL, S. Lipase: 140 mg/dL, S. Albumin: 3.5 g/dL

Histopathology:

Gross description: multiple soft tissue mass of size 4 cm with small hemorrhagic foci on cut section.

Microscopic description: section examined show tissue infiltrated by a tumor composed of sheets of cells displaying moderate nuclear anaplasia, prominent nucleoli and cytoplasmic vacuolation. There is stromal desmoplasia.

Histopathological features of the section examined were strongly suggestive of metastatic carcinoma.

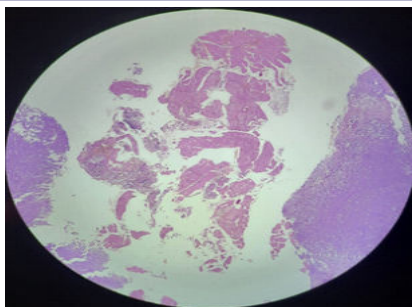


Fig. HPE of the tissue biopsy taken from deltoid.

Immunohisto Chemistry Marker-

We use CK-7, CK-20 and CDX2 immunohistochemical marker to detect the origin of the tissue.

We found that the tissue stains positive for CDX2 marker which is a specific marker of GI origin for adenocarcinoma. Also another marker CK-7 which stains negative and CK-20 which stains positive also strongly suggests adenocarcinoma.

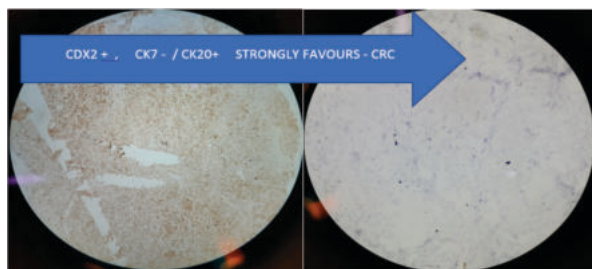


Fig. CK-20 maker positive

Fig. CK-7 marker negative

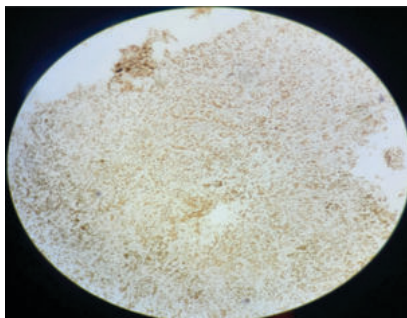


Fig. CDX2 IHC marker positive

DISCUSSION:

Colorectal cancer (CRC) is third most common cancer by prevalence and fourth most common cause of cancer related deaths worldwide. However, the incidence is less in the Indian subcontinent and is ranked seventh most common cancer in India. CRC has slightly higher incidence in males. Risk factors include family history of CRC, alcohol abuse, high fat diet, diet rich in red meat, selenium deficiency and other conditions such as polyps, inflammatory bowel disease (more in ulcerative colitis than crohn's disease), ureterosigmoid anastomosis, etc. Metastasis from colorectal carcinoma occurs by either lymphatic or hematogenous spread. Distant metastasis can be seen in liver, lungs and bones. Skeletal muscle is one of the most unusual sites of metastasis from any malignancy[3,4,5]. Previously some cases of Skeletal muscle metastasis have also been reported in bronchial carcinoma[1,2].

Although such musculoskeletal metastasis does not cause any symptoms initially but later may cause pain. The origin of tissue can only be confirmed by Immunohistochemical markers which is CK-7[negative] and CK-20[positive]. Recent immunohistochemical studies have reported that CDX2 is a

specific and sensitive marker for adenocarcinoma of the gastrointestinal tract, particularly colorectal adenocarcinoma[6]. The treatment for such metastatic swelling is simple local surgical excision but the risk of recurrence can also be seen at the same site if any tissue at microscopic level is left behind. Wide local excision can be done to achieve R0 resection. Further chemotherapy can be given as palliative treatment. This patient did not survive for long and died after one year and six months of surgery.

- (1) • MUSCULOSKELETAL METASTASIS CAN BE SEEN IN ADVANCED RECTAL CARCINOMA
- (2) • CDX2 IS A MORE SENSITIVE AND SPECIFIC MARKER FOR GI ADENOCARCINOMA, PARTICULARLY CRC.

Key Points In Learning

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