



ANASTOMOTIC SITE CARCINOMA IN A PATIENT ON URETEROSIGMOIDOSTOMY AFTER 2 DECADES. IMPORTANCE OF SCREENING RE-EMPHASIZED.

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Abstract :

Colonic carcinoma arising from the site of a functioning ureterosigmoidostomy anastomosis is a recognized late complication. This article reports one such case and re-emphasizes on the value of screening following ureterosigmoidostomy. A 27 year old male a known case of Exstrophy Epispadias complex for which he has undergone Ureterosigmoidostomy and excision of the bladder at the age of 1 year completely lost followup. He presented with right loin pain and fever for the past 1 month. CT scan of the KUB region showed a right hydronephrosis and a growth in the site of Ureterosigmoidostomy. Sigmoidoscopy showed a proliferative growth in the ureterosigmoidostomy site which on biopsy was reported as adenocarcinoma. The patient underwent right nephroureterectomy and sigmoidectomy. The left ureter was brought out through an ileal conduit. Patients with

ureterointestinal anastomosis need periodic screening to rule out malignancy at the anastomotic site. The incidence is 100-550 times that of the general population. Hence all patients should have a flexible sigmoidoscopy once per year, commencing atleast 10 years after surgery.

Keyword :

ureterosigmoidostomy, exstrophy epispadias, screening

ANASTOMOTIC SITE CARCINOMA IN A PATIENT ON URETEROSIGMOIDOSTOMY AFTER 2 DECADES: IMPORTANCE OF SCREENING REEMPHASIZED.

Introduction:

Ureterosigmoidostomy as a means of urinary diversion was first introduced by Smith in 1878. One of the uncommon late complications of this procedure is the potential of developing urocolonic tumors at the anastomotic site

It was first reported by Hammer in 1929¹. However, as the mortality in patients with Ureterosigmoidostomy was so high, it was not recognized as an important complication until almost 60 years later.² We present one such case of anastomotic site carcinoma following ureterosigmoidostomy and emphasise on the need of periodic screening in such patients.

Case history :

A 27 year old male presented with right loin pain and fever for the past 1 month. He is a known case of Exstrophy Epispadias complex for which he has undergone Ureterosigmoidostomy with complete excision of the bladder and abdominal wall reconstruction at the age of 1 year. On evaluation he was found to have hydroureteronephrosis on the right side on ultrasound examination. A complete



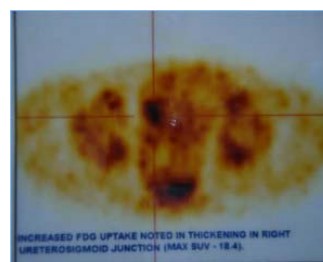
blood count showed evidence of iron deficiency anemia with haemoglobin of 7.6 g/dL.

CT scan showing Right Hydroureteronephrosis



CT scan of the KUB region showed a right hydroureteronephrosis and a growth in the site of Ureterosigmoidostomy. A whole-body positron emission tomography scan showed intense fluorodeoxyglucose uptake in the ureterosigmoidostomy site consistent with malignancy.

CT scan showing growth at the site of Ureterosigmoidostomy



The patient underwent a percutaneous nephrostomy on the right side. After the sepsis subsided he was evaluated further. Sigmoidoscopy showed a proliferative growth in the ureterosigmoidostomy site which on biopsy was reported as adenocarcinoma. Diuretic renogram showed a GFR of 54 ml with 12 % function in the right kidney. Left kidney was found to be functioning well. The patient underwent right nephroureterectomy and sigmoidectomy. The left ureter was brought out through an ileal conduit. The histopathological examination was reported as adenocarcinoma at the anastomotic site.

PET scan showing increased uptake of FDG Discussion:



Neoplasia at the anastomosis of the ureters and colon in patients with ureterosigmoidostomy occur in about 24% of patients at 20 years of follow up. The peak incidence of urocolonic tumor is usually in the third or fourth decades of life, but the development could occur as early as age 7 years³. The average latent period for tumors to develop after ureterosigmoidostomy is 26 years with a range of 3 to 53 years^{3,4}.

Right Nephroureterctomy & Sigmoidectomy specimen

The incidence is 100-550 times that of the general population^{5,6}; if the diversion is performed before the age of 25 years, the risk increases to 7000-fold.⁵ Although this rare long-term complication of malignant transformation has been well recognized, the pathogenesis remains to be controversial.

1 The most accepted theory is that the dietary nitrates excreted in urine come into the presence of high concentrations of secondary amines when diverted into the colon, with resultant bacterial activation of carcinogenic N-nitroso compounds⁷.

2 Another etiology suggested is that the chronic irritation of the suture line, where the ureters are implanted to the colonic mucosa, causes a local inflammatory response, which leads to the increased quantities of reactive oxygen radicals produced by phagocytes which in turn causes DNA damage^{3,4}.

3 It has also been suggested that the interaction of both urine and feces are necessary for carcinogenesis to occur, as perhaps the hydrolytic enzymes in the urine activate the conjugated carcinogens in the stool, and the anastomotic site of the two streams are the most active as they have the greatest concentration⁸. Strachan and colleagues reported a case

of epispadias treated with ureterosigmoidostomy initially and converted to ileal conduit 4 years later, and he developed adenocarcinoma at the site of ureteric stump 24 years later⁹. Patients having USM should be on regular follow-up with surveillance colonoscopy annually. And if they show dysplasia, polyps or tumor, ureterosigmoidostomy should be changed to other forms of diversion⁴.

Conclusion:

Obstructive urinary symptoms, bleeding per rectum and/or change in bowel habits after Ureterosigmoidostomy should be taken seriously and promptly investigated by colonoscopy and CT-10scan.

All patients should have a flexible sigmoidoscopy once per year, commencing 10 years after 11surgery

In patients who have had a ureterosigmoidostomy but have subsequently been converted to an alternative diversion, flexible sigmoidoscopies should still be done unless it is known that the ureteric anastomoses were removed¹¹.

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