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Value of Lymphography in Detecting Metastatic Cloacogenic Carcinoma

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Summary

Cloacogenic Carcinoma is a rare and highly malignant tumor arises from the transitional cloacogenic zone of the anorectal junction. These tumors metastasise by direct invasion and via the lymphatic channels to the regional lymph nodes. Lymphography was utilized to diagnose metastatic cloacogenic carcinomas and in 3 patients positive nodes were found on lymphography. This is a preliminary report describing the findings of metastatic cloacogenic tumors on lymphography and the author recommends utilization of this diagnostic procedure in the work up of cloacogenic carcinoma.

Value of lymphography in detecting metastatic cloacogenic carcinoma

Cloacogenic carcinoma is a highly malignant lesion arising from the transitional cloacogenic zone of the anorectal junction. Although it has been recognised as a distinct clinically-pathologic entity since 1956, information regarding radiological diagnosis still is
sparse (2, 5). Since the prognosis of cloacogenic carcinoma is greatly dependent upon
the extent of the tumor at the time of discovery early detection of possible metastatic
lesions is of utmost importance if one is to control the disease. The route of meta-
stases of cloacogenic carcinoma is predominatly by direct invasion and via the lympha-
tic channels to the regional lymph nodes. Lymphography was utilized to diagnose the
metastatic lesion of cloacogenic carcinoma and in three patients positive nodes were
detected on lymphography. These lymphographic findings were subsequently confirm-
ed histologically. It is a preliminary report of the lymphographic findings of cloaco-
genic carcinoma in these patients and an emphasis is made upon the utilization of
this diagnostic procedure which has a high rate of diagnostic accuracy to detect meta-
static lesions from cloacogenic carcinoma.

Report of Cases

Case I. This is a 49 years old female patient who was evaluated for a four month history of rec-
tal pain and tenesmus. She denied having any rectal bleeding or melena. A small rectal tumor
was found on the rectal examination and it was biopsied. The pathologic diagnosis was cloaco-
genic carcinoma.

The patient was then admitted for curative surgical procedure with abdominal perineal resection.
The past history was non-contributory. The pertinent findings on the physical examination con-
sisted of a mass measuring 1.5 x 3 cm in the distal rectum located posteriorly which was firm
and tender. Routine laboratory studies were within normal limits. Barium enema examination
confirmed the presence of the rectal mass located posteriorly (Fig. 1), but no other lesion was
detected. Lymphangiogram of the lower extremities was performed to evaluate the possible
metastases along the pelvic and inguinal chains of lymph nodes. This revealed a marginal filling
defect in the lymph node along the internal iliac chain on the left side and in addition, there
was circumventing of lymphatic channels just distal to the positive lymph node on a 24 hour
follow-up examination indicating obstruction of the lymph node by metastatic disease (Fig. 2).
The patient subsequently underwent abdominal perineal resection along with pelvic lymphad-
tectomy. The histological diagnosis of the tumor was again cloacogenic carcinoma of rectum, transi-

Fig. 1, Case I Lateral view of the rectum in a barium enema study showing a plaque-like shel-
ing defect (arrows) due to cloacogenic tumor

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Fig. 2, Case I. A 24 hour follow-up (nodal phase) lymphogram reveals marginal filling defects in a left pelvic lymph node (back arrowheads); A circumventing lymphatic channel (open arrow) indicates tumor replacement of lymph node causing obstruction.

Fig. 3. Case II. Lymphangiogram reveals marginal filling defects consistent with metastatic tumor in the right superficial inguinal nodes and right iliac nodes (back arrowheads; open arrow). These findings were subsequently confirmed at operation and the nodes were found to be histologically positive for cloacogenic carcinoma.

Fig. 4, Case III. A 45 year old female patient who was well until 1969 when because of rectal itching hemorrhoidectomy was performed. Squamous cell carcinoma was incidentally discovered in the specimen of hemorrhoid surgery. A wider resection of perianal skin was then performed. She did well until 1971 when she was found to have recurrence on the recto-vaginal septum. An abdominal perineal colostomy was performed. Subsequently, she was found to have perineal nodules which when biopsied revealed recurrent cloacogenic carcinoma squamous cell type. Lymphangiogram was performed to evaluate the metastatic disease of cloacogenic carcinoma in the regional lymph nodes and it showed marginal filling defects consistent with metastatic tumor in the right superficial inguinal nodes and right iliac nodes (Fig. 3). These findings were subsequently confirmed at operation and the nodes were found to be histologically positive for cloacogenic carcinoma. At this time, the patient also has liver metastases.

Case II. This is a 45 year old female patient who was well until 1969 when because of rectal itching hemorrhoidectomy was performed. Squamous cell carcinoma was incidentally discovered in the specimen of hemorrhoid surgery. A wider resection of perianal skin was then performed. She did well until 1971 when she was found to have recurrence on the recto-vaginal septum. An abdominal perineal colostomy was performed. Subsequently, she was found to have perineal nodules which when biopsied revealed recurrent cloacogenic carcinoma squamous cell type. Lymphangiogram was performed to evaluate the metastatic disease of cloacogenic carcinoma in the regional lymph nodes and it showed marginal filling defects consistent with metastatic tumor in the right superficial inguinal nodes and right iliac nodes (Fig. 3). These findings were subsequently confirmed at operation and the nodes were found to be histologically positive for cloacogenic carcinoma. At this time, the patient also has liver metastases.

Case III. This is a 61 year old female who was in good health until three months prior to admission when she experienced increasing constipation and decrease in the caliber of stools. This was punctuated with episodes of diarrhea and occasional minor episodes of rectal bleeding. Her past
Fig. 3 Case II. A 24 hour follow-up lymphogram showing marginal filling defects in pelvic lymph nodes (open arrow) and in superficial inguinal lymph node (black arrow) on the right side.

Fig. 4 Case III. A 24 hour follow-up lymphogram revealed marginal filling defects in pelvic lymph nodes (arrows) on the left side. (a) an antero-posterior view (b) a right posterior oblique view.
history was noncontributory. Pertinent physical findings were limited to the ano-rectal area. There was a mass approximately 6cm in length growing circumferentially around the anus and extending into the rectum. Biopsy of the lesion showed cloacogenic carcinoma with predominate basaloid type. Lymphography revealed marginal filling defects in pelvic lymph nodes on the left side consistent with metastatic tumor (Fig. 4). The patient subsequently underwent an abdominal perineal resection with dissection of inguinal and pelvic lymph nodes. The pathologic findings confirmed the lymphographic diagnosis of metastatic tumor in the left pelvic node.

Discussion

Cloacogenic carcinoma is a rare tumor that arises from the transition of cloacogenic zone of the ano-rectal junction. Cloacogenic carcinoma was described originally by Grinvalsky and Helwig (3) in 1956 and since that time it has been classified and recognized as a separate clinico-pathological entity among the malignancies of ano-rectal junction. These carcinomas differ in histologic pattern from the more common adenocarcinoma of the rectum and squamos cell carcinoma of the anus; the prognosis is also worse than the other two (4, 6). The patients with cloacogenic carcinoma present no specific clinical symptomatology and the lesions have no characteristic gross appearance. Various symptoms that the patients may have include rectal bleeding, rectal pain, constipation and change of bowel habit (1). A few cloacogenic tumors are found in asymptomatic patients during routine physical examination or during hemorrhoidectomy (4). The tumor is usually palpable in the rectum and may have ulcerations but there are no gross characteristic features in the clinical examinations. They occur more commonly in females in the middle ages. The duration of various symptoms ranges from a few weeks to over a year.

Although the clinical symptomatology is variable roentgenologic appearance on the barium enema examination is rather characteristic and early recognition of the tumor is entirely possible if one is aware of its subtle, but significant features. On barium enema, these tumors present as plaque-like, projecting into the lumen of the anus or distal rectum from one wall. The edges of the lesion form a smoothly tapered obtuse angle with the surrounding bowel wall rather than an acute angle as seen in the sesille polyps. This appearance on the barium enema examination is believed to be characteristic of cloacogenic carcinoma (Fig. 1). The roentgenologic appearance of this tumor on the barium enema examination has been reported elsewhere previously (2, 5).

The tumor spreads primarily by way of local invasion and metastases to the regional lymph nodes. The prognosis is greatly dependent upon the extent of the tumor at the time of discovery and therefore, not only the early recognition of the lesion but also determination of the extension of the tumor is very important. Once metastasis occurs in the regional lymph nodes the prognosis is very grave and the tumor spreads rapidly (1, 5, 6). Since the tumor metastasise to the regional lymph nodes, lymphography is a logical diagnostic procedure of choice to determine the extent of the disease. The lymphatic vessels of the cloacogenic zones drain into the sacral lymph nodes, internal and common iliac nodes, and superficial inguinal lymph nodes. Lymphography is highly useful in detecting metastases and correlated closely cloacogenic carcinoma is similar to that of other metastatic carcinomas of the regional lymph nodes. The positive findings are 1) marginal filling defects of the lymph node, 2) retention of contrast medium in the affarant vessels, 3) circumventing of lymphatic vessels of all involved lymph nodes during the lymphatic phase because of obstructive pathway by the metastatic carcinoma (Fig. 2). The treatment is an abdominal perineal resection with wide excision of the perineal skin and soft tissues with concomitant lymphadenectomies of the inguinal and pelvic lymph nodes.

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Lymphography is also useful in detecting completeness of lymphadenectomies doing operations simply by checking opacified nodes on an abdominal x-ray film in the operating room. It is to be emphasized that the lymphatic drainage of the distal portion of the cloacogenic zone is to the superficial inguinal lymph nodes. These lymph nodes should be carefully examined in the lymphogram and they are to be included in the lymph node dissection at operation, along with the pelvic nodes. Case 1 is an example demonstrating failure to include inguinal lymph nodes in lymphadenectomy and the patient returned with tumor in the inguinal lymph nodes and wide spread metastasis. False positive changes in the lymph nodes in this region are common and the usual cautions also apply here when interpreting the inguinal lymph node metastases.

References
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Thorotrast Granuloma of Periaortic Nodes

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Enlargement of periaortic nodes with multiple small filling defects on lymphangiography in a patient with history of low grade fever, weight loss, night sweats and general malaise, strongly suggests the possibility of retroperitoneal Hodgkin’s disease if an infectious, chronic granulomatous disease can be excluded. In the patient reported here, the final histological diagnosis was a quite unusual one: thorotrast granuloma.

A 55-year-old male was admitted to Flushing Hospital because of low grade fever of six-