CLOACOGENIC CARCINOMA
Senthil Kumar S1, Alba Thomas2, P. Viswanathan3, U. Manohar4, J. Kabali Murthy5

HOW TO CITE THIS ARTICLE:

ABSTRACT: Cloacogenic carcinoma originates from the mucosa of transitional or cloacogenic zone separating the rectal and anal mucous membranes. This is a case of 70 yr old female who presented with mass in anorectal and vulvar region and bleeding per rectum. Inguinal nodes were palpable. Clinically it was diagnosed as anal carcinoma. Histopathologically diagnosis confirmed as cloacogenic carcinoma.

KEY WORDS: cloacogenic carcinoma, anorectal region, basaloid.

INTRODUCTION: Cloacogenic Carcinoma accounts for 2 - 3% of all anorectal carcinoma found in all age groups but predominantly in 5th to 6th decade. Females are affected 2-3 times more frequently than in males. (1)(2)

It is a rare tumour of anorectal region originating from persistent remnant of cloacal membrane. Cloacogenic carcinoma arise from the mucosa of transitional or cloacogenic zone separating the rectal and anal mucous membranes.(3).The common symptoms are rectal bleeding, rectal pain and perineal discomfort. Approximately one third of patients notice an anal mass. Most tumours present as fungating or ulcerating lesions but the tumour may arise in anal ducts and present as submucosal mass. A small number of patients have no intra luminal mass. (4)

CASE REPORT: A 60 Year old lady presented with the growth in external genitalia and anal region of 7 months duration. She complained of pain over swelling, pain during defecation and bleeding per rectum. She had spontaneous defecation of 4 months duration.

On local examination an ulceroproliferative growth over anal region and 2x2 cm growth over left side labia majora.

Inguinal nodes were palpable and FNA was attempted which revealed cytologically, poorly differentiated tumour cells with vague papillary configuration.

After carrying out necessary investigations, wedge biopsy from both vulval and anal growth is performed under spinal anaesthesia.

Two containers were received one labeled as vulvar growth and other labeled as anal growth.

Grossly vulvar growth appeared as multiple grey white, grey brown skin covered soft tissue pieces altogether measuring 1 ml in aggregate all embedded in single block A.

Anal growth appeared as grey white, grey brown soft tissue pieces altogether measuring 0.3 ml in aggregate all embedded in single block B.

Histology -Section studied from both the specimen shows a malignant tumour composed of markedly anaplastic and pleomorphic cells arranged in nests and sheets. They tend to form vague glandular units. Some cells look basaloid as well. Clumps of poorly differentiated hyperchromatic cells present.

Diagnosis – Features are consistent with cloacogenic carcinoma.
DISCUSSION: A knowledge of normal gross and microscopic anatomy of anal region is imperative to a proper understanding of the disease processes that involve this region. The most important landmark is the dentate line (also called the pectinate line). It represents the embryologic junction between the cloaca proximally and the proctodeum distally. This line runs circumferentially in a wavy fashion and is easily recognized grossly in resection specimens. Below the dentate line lies the pecten or anal margin, which is lined by smooth –surfaced non-keratinizing, squamous epithelium. Above the dentate line is a transitional zone or cloacogenic zone, lined by non-keratinizing squamous epithelial tumor by transitional –type epithelium resembling urothelium. (5)(6)

Carcinomas of pecten (ie arising below the dentate line) are most frequent in men and tend to be well-differentiated and keratinizing, with relatively good prognosis. Carcinomas of transitional zone (i.e. arising above the dentate line) are more common in women and are generally poorly differentiated with a correspondingly worse prognosis. (7)

It has been given a variety of names: basaloid, cloacogenic or transitional. However, a more descriptive term non –keratinizing small cell squamous carcinoma is to be preferred. (3)(8)

Basaloid carcinomas may contain variety of cell types reflecting normal histologic appearances of the transition zone (6). They contain islands of tumour cells, with an intervening dense fibrous stroma. At the edge of the islands, the cells are palisaded, and in center of the islands, there may be zone of necrosis. Well differentiated basaloid carcinomas consist of regular small cells, with little pleomorphism and a low mitotic rate. They have dense nuclear chromatin and small quantities of cytoplasm. Well –differentiated basaloid carcinomas show a certain histological resemblance to basal cell carcinoma or rodent ulcer of hair bearing skin features common to both include the formation of islands of small cells with basophilic cytoplasm and a distinctive pattern of nuclear palisading at the periphery of the clumps of tumour cells. There may be some differentiation towards squamous cells in small concentric whors and sharply defined plugs of scattered throughout the tumour. One feature unlike basal cell carcinoma is the presence of masses of eosinophilic necrosis surrounded by relatively narrow rim of tumour cells giving a swiss- cheese appearance under low power of microscope. In occasional cases there can be striking likeness to transitional carcinoma of the bladder. (3)(7)(9)

In moderately differentiated basaloid carcinoma, palisading, is less prominent, whilst in poorly differentiated cases cells are formed into small highly infiltrative clumps and there is considerable nuclear pleomorphism and mitotic activity. Poorly differentiated tumors have irregular larger basaloid cell. On occasion they also demonstrate a microcystic pattern and contain isolated mucus –secreting cells. (3)(7)(9)

The highly anaplastic cloacogenic cell neoplasms show great similarity to oat cell carcinomas of lung. The cells are devoid of visible cytoplasm and the nuclei are deeply basophilic and spindle shaped with no evidence of peripheral palisading. Evidence of squamous differentiation is absent in these lesions. Characteristically they grow in large sheets of closely packed cells rather than in discrete nests, as in more well differentiated lesions. They grow into the surrounding tissues in pushing fashion rather than in an infiltrative one. (3)

Nodal metastasis can be noticed at the time of their initial therapy. The perirectal nodes are most commonly involved, followed by inguinal nodes. When contiguous organs are involved the most common adjacent structure to be involved is vagina. This occurs in 20% of women with this
tumour. Involvement of prostate occurs in approximately 5% of male patients. The organs most frequently involved by metastasis are liver, lungs, bones and peritoneum. (3)(10)

CONCLUSION: Anal tumours being rare, most series have been retrospective and relatively small. Radiotherapy and chemotherapy are becoming the preferred primary modes of treatment. Main role of pathologist is to establish the correct diagnosis and comment on the type and grade of the tumour as obtained by representative incision biopsy. This information is useful in management for example, sphincter –saving local excision is the treatment of choice for tumours less than 2cm in diameter, but is inappropriate if carcinoma is poorly differentiated. The small cell undifferentiated oat cell carcinoma is rare, but it is important that the entity is recognized when it occurs. Radical surgery invariably fails because, like oat cell carcinoma of lung, the disease is generalized at the time of diagnosis. (7)

ACKNOWLEDGEMENT: We take the privilege of thanking the Medical Superintendent and Dean, Faculty of Medicine, Dr. L. Lakshamana Rao, H.O.D. Department of Pathology and the patient, for allowing us to take on this case for presentation.

REFERENCES:
8. Grinvalsky NT, Helwig EB: Carcinoma of anorectal junction. Cancer 9;480,1956
Figure 1 & 2 shows poorly differentiated tumor cells with vague papillary configuration.

Figure 3 shows tumor mass showing cells with basaloid cells with peripheral palisading. Figure 4 shows tumor mass with squamous differentiation.

Figure 5 shows poorly differentiated tumor cells with glandular differentiation. Figure 6 shows poorly differentiated tumor mass surrounded by oat cell carcinoma of lung like morphology.

X - Indicates the power of objective

Stain used is Haemotoxylin and Eosin
AUTHORS:
1. Senthil Kumar S.
2. Alba Thomas
3. P. Viswanathan
4. U. Manohar
5. J. Kabali Murthy

PARTICULARS OF CONTRIBUTORS:
1. 3rd Year Post Graduate, Department of Pathology, Rajah Muthiah Medical College, Annamalai University.
2. 3rd Year Post Graduate, Department of Pathology, Rajah Muthiah Medical College, Annamalai University.
3. Professor, Department of Pathology, Rajah Muthiah Medical College, Annamalai University.
4. Professor, Department of Pathology, Rajah Muthiah Medical College, Annamalai University.
5. Professor, Department of Surgery, Rajah Muthiah Medical College, Annamalai University.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:
Dr. P. Viswanathan,
Professor,
Department of Pathology, Faculty of Medicine, Rajah Muthiah Medical College, Annamalai University, Chidambaram, Tamilnadu, India – 608002.
Email – drpviswanathan2013@gmail.com

Date of Submission: 06/08/2013.
Date of Peer Review: 07/08/2013.
Date of Acceptance: 27/08/2013.
Date of Publishing: 29/08/2013.