

## METASTASIZING ERYTHROPLASIA QUEYRAT

### *Report of a Case*

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**Abstract.** A typical clinical and histologic case of Queyrat's erythroplasia of the glans penis is presented. For several years the patient had been treated for balanitis and inflammation of the glans. A few months before the patient died, the correct diagnosis was established. Shortly after, metastases to the inguinal lymph nodes were found and treated with X-rays. At autopsy, metastases to other organs were revealed. It is concluded that erythroplasia of Queyrat might be Bowen's disease of a mucosal or mucocutaneous area, and this "carcinoma in situ" may metastasize. Consequently Queyrat's erythroplasia should be treated as a malignant disorder as soon as the diagnosis is established.

**Key words:** Erythroplasia of Queyrat, metastasizing; Metastasizing erythroplasia Queyrat; Queyrat's disease with metastases; Bowen's disease

In 1911 Queyrat introduced the term erythroplasia, reporting four cases appearing on the glans penis. It is an uncommon condition, which occurs on a genital membrane or on a genital mucocutaneous area in the form of a slightly raised, sharply-demarcated, bright-red, glistening, velvety plaque (4). Queyrat's erythroplasia has been described as Bowen's disease of the above-mentioned site, due to its identical histology. Some authors suggest that Queyrat's erythroplasia and Bowen's disease are different entities, as Bowen's disease is found more often than erythroplasia of Queyrat in association with primary or extracutaneous malignant tumours elsewhere (2). But association with internal cancer is rather different from cancer in situ that metastasizes. Consequently, we consider it of interest to add the present report to the literature and once again to define the diagnosis of erythroplasia of Queyrat. It is of great importance to draw attention to the possibility of a penile lesion which

gives rise to carcinomatous spread to other organs without histological evidence of invasive carcinoma in the primary penile erythroplasia.

### CASE REPORT

A 75-year-old man who, since 1968, had suffered from erythema and inflammation of the foreskin with increasing phimosis, suffered in January 1973 from a marked oedema of the left leg, and in March 1973 was admitted to a surgical ward of the Odense University Hospital.

The patient's past history was non-contributory to his symptoms. In August 1970 he was operated for prostatic enlargement, and microscopy showed benign hyperplasia. However, it was mentioned in the clinical record that the prepuce was swollen and showed redness. The patient related that this condition had persisted for 2 years despite treatment with different kinds of ointments. At a control examination 3 months after the operation the patient's only complaint was balanitis, and the glans penis was found red, swollen and firm. Unfortunately the patient himself failed to come to further controls. In March 1973, however, he was admitted to the hospital for cancer of the penis. A sharply demarcated, moist, red plaque was found on the distal 4-5 cm of the prepuce (Fig. 1). There was marked phimosis, making it impossible to examine the glans. There was marked lymphoedema of the left side of the scrotum and the left leg, but no palpable inguinal lymphadenopathy.

Laboratory data: ESR 27-51 mm, no pathological findings at haematological examination. Se-calcium, se-creatinine, se-electrolytes, and liver enzymes—all within normal limits. Urine: +protein, -glucose.

ECG and cystoscopy: no pathological findings.

Intravenous urography showed partial hydronephrosis and hydro-ureter on the left side. Lymphography of the right side showed normal conditions of the lymph vessels in the right inguinal and sacral regions. The contrast stopped at the second to third lumbar vertebra after 24 hours. No suspicion of metastases. Lymphography of the left side failed. Bone-marrow examinations showed hypoplastic bone-marrow.

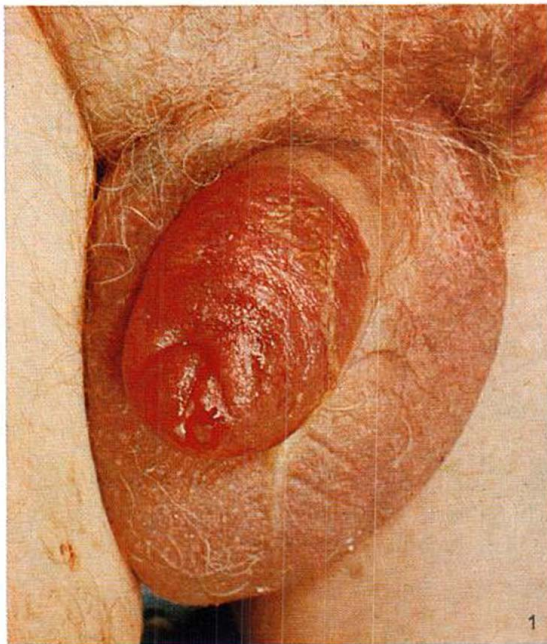


Fig. 1. The penile lesion with oedema and eczematous appearance.

Fig. 2. The epithelial lesion of the preputium. The squamous epithelium is thickened, with stratification of the upper layer only, the rest being disarranged with considerable pleomorphism and hyperchromasia of cell nuclei. Below the rather sharply demarcated basement membrane infiltration with mononuclear cells is seen. Hem.-Eos.  $\times 40$ .

Fig. 3. As Fig. 2. The cell and nuclear polymorphism and mitoses are demonstrated. Basement membrane intact. Hem.-Eos.  $\times 160$ .



### Biopsies

In March 1973 biopsy material from the prepuce showed thickened squamous surface epithelium with severe disturbance of the stratification, with loss of cell polarity. The cells were polymorphous with large irregular hyperchromatic nuclei, often closely packed. Several mitoses were present. There was a tendency to downward, club-shaped growth, but the basement membrane was intact, so that no sign of invasiveness was observed. In the upper corium was a band-like infiltration of lymphocytes and plasma cells. Microscopical diagnosis: Erythroplasia of Queyrat (Figs. 2, 3).

On March 30, 1973 circumcision was performed, which revealed a lesion on the glans, similar to that of the prepuce. Microscopical examination of the circumcised specimen showed identical malignant epithelial changes as mentioned. However, there was greater dysplasia and more vacuolated cells as well as individual or solitary parakeratoses, but no signs of invasive growth. Serial

sections did not provide evidence of presumed invasive growth, and the basal lamina seemed to be intact as indicated by PAS- and silver staining techniques. Only histochemical methods allowed a determination of the localisation of lamina basalis.

Simultaneously, inguinal lymphadenopathy was palpable in both sides. Edema of the left lower extremity was present, and an excised lymph node ( $\frac{1}{2} \times 1\frac{1}{4} \times 1$  cm) from the left inguinal region showed microscopically huge masses of metastases of epithelial tumour tissue of the same type as in the in situ carcinoma of the prepuce.

Treatment with X-irradiation, Cobalt-60 was given (total dose: 4000 rad, 6 weeks) and the patient was discharged from the hospital on May 23, 1973.

Six weeks later, on July 5, 1973, the patient was readmitted in severe dehydration. During the following 3 weeks he developed uraemia and died.

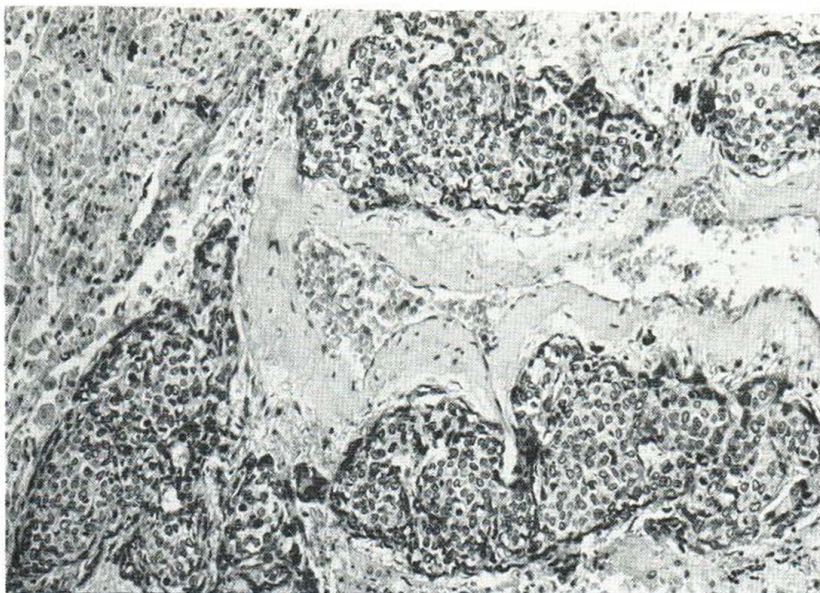


Fig. 4. Perivascular carcinomatous growth in lung. Hem.-Eos.  $\times 140$ .

#### Post-mortem examination

At autopsy no ulcerating cancer was found on the penis. The inguinal and lumbar paravertebral lymph nodes were enlarged by tumour growth. The liver showed a few  $1 \times 1$  cm whitish firm nodules. Lumbar vertebrae II and V were replaced by whitish and rather firm tumour-like tissue. The lungs did not show any solid tumour-like features, but a diffuse fine nodularity and small elevated plaques on the visceral pleura were seen. Hydrothorax was present on the left side (2 500 cc). Microscopy showed metastases in the above-mentioned lymph nodes, the liver

and the lungs, and in these localisations the tumour tissue presented the same histological picture as that from the original malignancy on the penis. In the lungs, both intravascular as well as intra-alveolar tumour tissue was observed (Fig. 4).

The mentioned vertebrae showed a more definite appearance of squamous cell carcinoma with "horn pearls", and the tumour was here desmoplastic (Fig. 5). Further findings were: rather fine fibrosis of the myocardium and chronic interstitial fibrosing nephritis. In addition, the special change "cardiac colloid" was observed in the myocardium (Fig. 6).

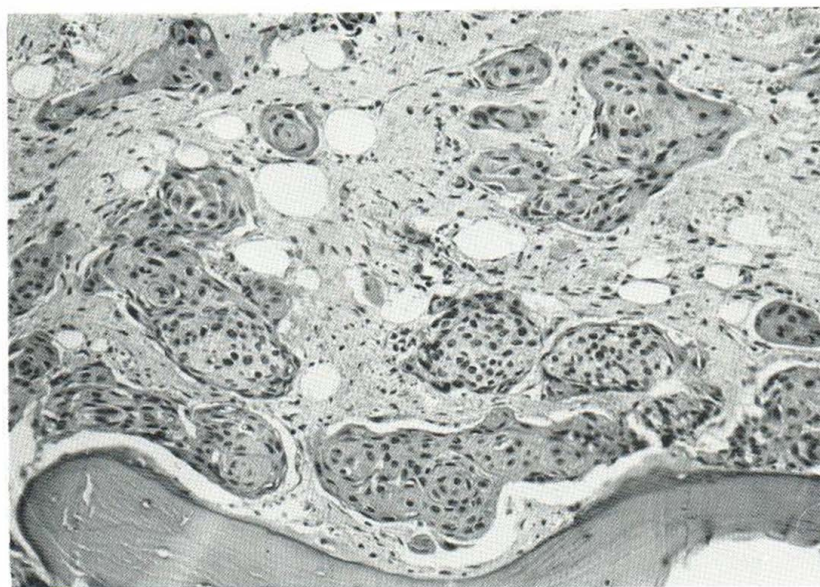


Fig. 5. Metastasis to vertebral column. The malignant growth here has a greater resemblance to epidermoid carcinoma. Hem.-Eos.  $\times 160$ .

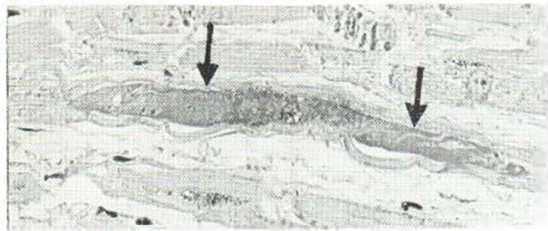


Fig. 6. Basophilic degeneration ("Cardial colloid") of heart muscle cells.  $\times 250$ .

## DISCUSSION

Since 1920 the relationship between cutaneous and internal malignancy has been pointed out by several investigators. Little attention has been paid to the precancerous skin lesions or "carcinoma in situ" changes giving rise to distant metastases.

In 1955 Blau & Hyman critically reviewed the subject of Queyrat's erythroplasia (1). They found by histological examination that three types exist: (a) Bowen's disease of the glans penis, (b) benign inflammatory conditions, (c) plasmocytic infiltration. They concluded that it is impossible to distinguish clinically between a benign and a malignant nature of the condition, and that Bowen's disease of the mucous membrane may properly bear the eponymic title Erythroplasia of Queyrat. Non-malignant inflammatory manifestations may not bear that title, nor may the plasma cell infiltrates in mucosal sites.

From an analysis of the 62 American cases described, Blau & Hyman (1) found that 16 cases demonstrated definite histologic signs of malignancy; 26 of the cases had no histologic evidence of malignancy and could be diagnosed as plasmocytoma penis, or distinctive exudative discoid and lichenoid chronic dermatosis, or as a benign inflammatory state. Twenty cases could be excluded as not being identical with erythroplasia Queyrat.

Three of these cases were probably psoriasis, 2 were frank malignancies of the penis unrelated to erythroplasia, 3 were leukoplakia, one was granuloma inguinale, one a prickle cell epithelioma, and one was a chronic adhesive balanoposthitis.

The present case demonstrates that a carcinoma in situ is capable of metastasizing. The patient was treated for inflammatory balanitis for 5 years before the correct diagnosis erythroplasia Queyrat was established, based on signs and symptoms verified by histology. Subsequently the development was rapid and metastases occurred, giving a fulminant course resulting in the patient's death within a few months.

Queyrat's erythroplasia should be suspected by clinical examination, and when histologic examination confirms the diagnosis it should be treated as a cancer.

The cardiac colloid mentioned (basophilic or mucoid degeneration) is an additional finding which cannot with certainty be set in relation to the main disease of the patient (3).

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