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# Secondary metastatic arthritis to a cutaneous squamous cell carcinoma

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**Abstract:** Metastatic arthritis is uncommon. The knee is the most affected joint. Arthritis can either be secondary to direct tumor invasion of the synovial membrane or reaction to a juxta articular bone location. The primary tumor is often a lung cancer and histological type is mainly adenocarcinoma. We report a case of knee monoarthritis secondary to joint metastases of cutaneous squamous cell carcinoma. The diagnosis was suspected in front of recurrent haematic arthritis, preceded by skin ulceration, evolving in a context of deterioration of the general status. The diagnosis was confirmed by comparable anatomopathological results of bone and synovial biopsy on the one hand, and biopsy of the skin ulceration on the other.
**Keywords:** Arthritis; Knee; Joint metastasis; cutaneous squamous cell carcinoma.

## INTRODUCTION

Metastatic carcinoma arthritis's of solid cancers are rare [1, 2]. In 2008, Currall VA and al have identified 39 neoplastic arthritis cases published in the literature [3]. A case of arthritis of the secondary shoulder to pulmonary malignancy was published in March 2009 [4] and another case of neoplastic arthritis of the secondary knee also to cancer of the lung was published in 2014 [5]. A male predominance is noted in 64% of cases [3, 5]. The mean age of onset is 64 years (range 29 to 96 years) [3, 5]. In typical forms, it is a monoarthritis of a large joint [6]. The knee is the most affected joint, follow-up of the shoulder, then the ankle [3, 5]. The primary tumor is of pulmonary origin in the majority of cases [3, 5]. Cancer of the colon, kidney, laryngeal and breast are less frequently involved [7, 8]. 3 cases of secondary metastatic cutaneous melanoma arthritis have been reported in the literature [3].

## CASE REPORT:

It was a 52 years old patient, smoking Chronicle (30 packages per year), treated to a left knee mono-arthritis of tuberculosis origin and declared cured for a year ago, who has presented for 8 months a mono-arthritis of the right knee gradually volume increasing and causing major functional impairment and progressing in a context of deterioration of the general status. The evolution was marked by the appearance of edema affecting the entire right lower limb. A varicose Doppler concluded in venous thrombosis of the right superficial femoral vein and the patient was treated with anti-vitamin K at the rate of 1 mg per day.

The clinical examination for admission showed a persistence of Mono-arthritis with a painful stiffness in flexion and extension of the right knee and the presence of a scar of skin burns with skin ulceration of the right popliteal fossa. Palpation of lymph node areas noted the presence of a hard and fixed plans underlying right inguinal Lymphadenopathy. The biological assessment showed an inflammatory syndrome with erythrocyte sedimentation rate to 114 mm in the first hour, a C reactive protein (CRP) to 41 mg/l and hemoglobin to 10.6 g/dl. The calcium, alkaline phosphatase and serum creatinine were normal.

Puncture of the right knee has objectified a hematic joint fluid, with 19500 cells per mm3, inflammatory with a rate of leukocytes to 4000 items per mm3 on which 75% are polymorphonuclear neutrophils. Research of germs and microcrystals was negative. The research of bacilli of Koch (BK) in sputum and the joint fluid were negative. An osteolysis heterogeneous and diffuse any joint with a pathological fracture of the medial femoral condyle and an infiltration of the soft parts were visible on the standard radiographs of his right knee (figure 1, 2)

**Fig 1: radiography of the right knee face showing lytic images relevant to the lower end of the femur, the upper end of the tibia and fibula with a pathological fracture of the medial femoral condyle and infiltration of the soft parts.**

**Fig 2: radiography of the right knee of profile showing lytic images relevant to the patella, the lower end of the femur, the upper end of the tibia and fibula**

The computed tomography scan has objectified an osteolysis with massive destruction of the right knee associated with intra and periarticular collection (figure 3).

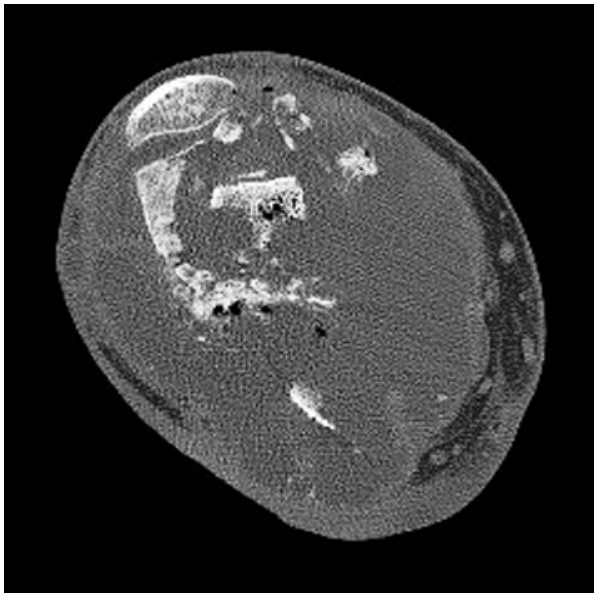

**Fig 3: Computed tomography scan of right knee showing osteolysis with mass destruction of the knee associated with an important collection of intra and periarticular.**

Surgical exploration of the right knee has objectified a total internal femoral condyle osteolysis, a crumbly synovial taking a look pulpit fish and allowed the drainage of a liter of sero-hematic fluid. The research of bacilli of Koch (BK) in collected pus was negative.

The anatomopathologic study of fragments of bone and the synovial has concluded a moderately differentiated squamous cell carcinoma and invasive (figure 4). The anatomopathologic study of biopsy of cutaneous ulceration sitting on the scar of Burns at the level of the popliteal fossa right has concluded in a little differentiated squamous cell carcinoma and invasive comparable to the results of the Osteoarticular biopsy (figure 5).

The balance sheet of extension (Chest radiography, abdomino-pelvic ultrasound and thoraco-abdominopelvic tomodensitometry) had concluded in infringement locoregional with extension to the inguinal lymph nodes without visceral. The treatment consisted of a first surgery by amputation of the right lower limb with inguinal lymphadenectomy then adjuvant chemotherapy. The evolution was marked by the gradual worsening of the altered general status then the death which occurred 8 months after diagnosis.

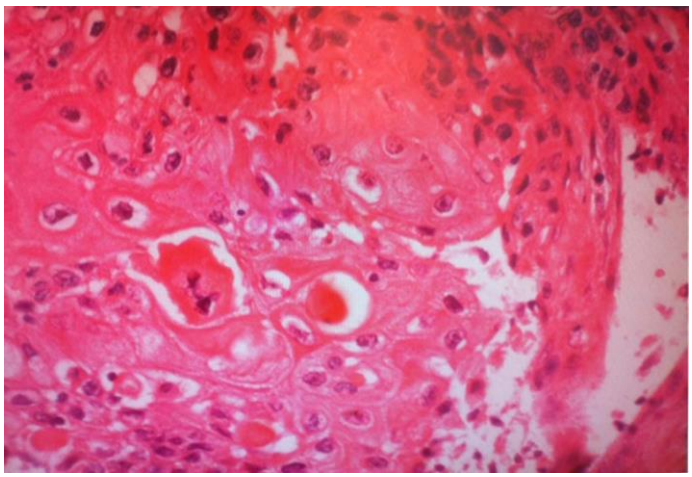

**Fig. 4: Bone and synovial biopsy showing an aspect of a moderately differentiated squamous cell carcinoma and invasive.**

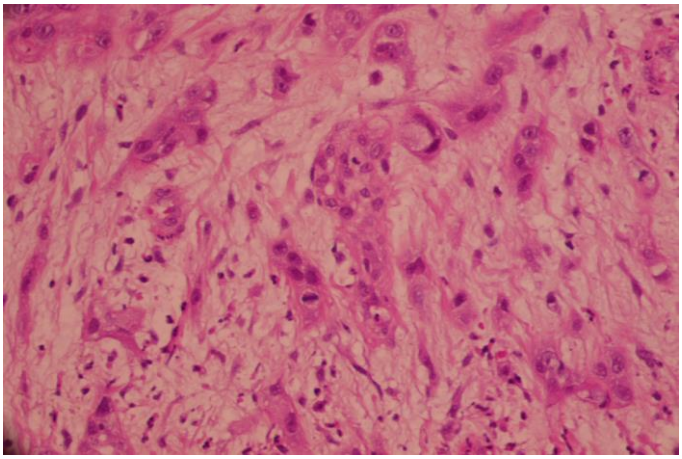

**Fig 5: Skin biopsy of ulceration of the right popliteal fossa showing an aspect of a little differentiated squamous cell carcinoma and invasive**

## DISCUSSION:

This case that we report is possibly the first case of cutaneous squamous cell carcinoma with metastatic arthritis. In over half of the cases, patients have no history oncology and arthritis this may be the initial manifestation of cancer [3, 4, 5, 9, 10]. Two mechanisms have been described to explain the synovial metastases, the first is the achievement of the synovium from the adjacent bone metastasis and this is by far the most common mechanism and the second mechanism is the achievement of the synovial hematogenous route [11, 12]. Adjacent bone metastases are present in the majority of cases. Among the cases reported in the literature, 55% of patients had bone lesions evoking a malignant etiology ([3, 4]. Bone scintigraphy with technetium-99 objectified an uptake in 81% of patients [3, 5]. The joint fluid is mechanical and hemorrhagic in most cases [13, 14]. The cytology study may reveal tumor cells in 45-63% of cases, hence the need to perform a synovial biopsy in cases of persistent monoarthritis [13, 14]. Histological type most frequently encountered is adenocarcinoma [7, 8]. The prognosis is generally bad and the median survival is approximately 5-6 months [5, 13]. The prognosis in our patient was severe, which correlates with data from the literature. Treatment is usually based palliative chemotherapy or external beam radiotherapy of the affected joint [14].

## CONCLUSION:

Carcinomatosis arthritis is rare. We have to think before any unclassified monoarthritis operating in a context of deterioration of the general status, and must perform a bone and synovial biopsy to authenticate diagnosis and initiate a diagnostic approach in search of the primary tumor. Our observation is distinguished by histologic type of the primary tumor which is a cutaneous squamous cell carcinoma.

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