Case report

Auricular involvement of a multifocal non-AIDS Kaposi's sarcoma: a case report

Un caso di sarcoma di Kaposi, multifocale non-HIV correlato, dell'orecchio esterno

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SUMMARY

Kaposi's sarcoma (KS) is a multicentric, malignant neoplastic vascular disease, mainly involving skin and mucosae, characterised by the proliferation of endothelial cells. The aetiology of KS still is unknown. Nonetheless, it has been reported that several epidemiological and environmental factors may play a role in its pathogenesis. Viral factors (i.e. human herpes virus 8, HHV-8) have also been claimed to play a role in the onset of KS. Four main clinical presentations of KS have been described: classic (sporadic), African (endemic), iatrogenic (immunosuppression-associated) and AIDS-associated (epidemic). The authors present a case of KS involving the external ear of a HIV-negative patient with a history of non-Hodgkin lymphoma and tuberculosis.

KEY WORDS: Kaposi's sarcoma • External ear • Lymphoproliferative disorders

RIASSUNTO

Il Sarcoma di Kaposi (KS) è una patologia neoplastica maligna su base vascolare, che principalmente coinvolge la cute e le mucose, caratterizzata dalla proliferazione di cellule endoteliali. L'eziologia del KS è ancora sconosciuta, sebbene sia stato riportato che fattori epidemiologici, ambientali e virali (es Herpes virus umano 8, HHV-8) possano avere un ruolo nella patogenesi di tale affezione. Ad oggi, sono state descritte quattro forme principali di KS: classico (sporadico), africano (endemico), iatrogeno (associato a stati di immunosoppressione) ed AIDS-relato (epidemico). Gli Autori presentano un caso di KS con coinvolgimento del condotto uditivo esterno, in una paziente HIV-negativa con storia di linfoma non-Hodgkin e tubercolosi.

PAROLE CHIAVE: *Sarcoma di Kaposi • Orecchio esterno • Disordini linfoproliferativi*

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Introduction

Kaposi's sarcoma (KS) was first described in 1872 by Moritz Kaposi [1]. KS is an angioproliferative disorder characterised by proliferation of spindle-shaped cells (SC), neoangiogenesis, inflammation and oedema, categorised as an intermediate neoplasm due to the absence of conventional features of malignancy [2-4]. The clinical appearance of KS is classically described as pink, red, purple, or violaceous macules, papules or raised plaques, although nodular and more distinctly neoplastic-looking forms have also been described [5].

The pathogenesis of KS is now recognised to be multifactorial. It is influenced by genetic and environmental factors and is related to a state of immunosuppression. Moreover, the lesion is associated with a rhadinovirus, namely human herpes virus 8 (HHV-8) [6]. HHV-8 DNA sequences have been found in approximately 95% of KS lesions in patients with both AIDS and non-AIDS KS [7].

The transmission modalities of HHV-8 are still unknown, even if the higher incidence of KS in HIV homosexual males suggests a possible sexual transmission (through faeces). Moreover, HIV patients with KS mainly have oral cavity and rectal lesions, which seems to suggest local direct spreading.

A limited number of review articles focus on the incidence of non-AIDS KS in the head and neck area [8 9]. The oral cavity is the most common site of presentation, and in these cases the KS lesion is usually coexistent with others [10].

The clinical appearance of KS is classically described as pink, red, purple or violaceous macules, papules or raised plaques; at later stages they can become nodular or exophytic and sometimes becomes ulcerous. Oral lesions can ulcerate more often than skin lesions. Particularly due to ulceration, lesions within the oral cavity may manifest with pain, burning and bleeding.

We describe a case of KS of the pinna and external auditory canal that developed in an HIV-negative patient with a history of tuberculosis and non-Hodgkin lymphoma.

Case report

We report the case of a female patient aged 72 years, referred to the Audiology Department of the University Hospital of Ferrara, for the evaluation of a slow-growing, violaceous, macular lesion in the right pinna and external auditory canal (Fig. 1). The patient complained of itching and occasional discharge from the external auditory canal. Right otoscopic examination revealed the presence of a violaceous and thickened macular lesion with keratosis of the concha that also involved the antero-inferior wall of the external auditory canal until about 4 mm from the tympanic membrane. The tympanic membrane was intact. Left otoscopic examination was normal. The remainder of the ENT examination was unremarkable, and in particular the oral cavity was normal and no cervical nodes were present. Pure tone audiometry showed right sensorineural hearing loss in the high frequency range (4-8 kHz).

At the time of examination, other cutaneous lesions were also present on the right arm (Fig. 2) and the postero-medial surface of the left leg.

The clinical history of the patient included peripheral polyneuropathy, miliary tuberculosis (pleural, intestinal and vesical), ankylosing spondylitis, pulmonary hypertension and chronic pericarditis. She also suffered from T-cell non-Hodgkin lymphoma for which she had been treated with 4 cycles of chemotherapy (CHOP: cyclophosphamide, doxorubicin, vincristine and prednisone).

KS was diagnosed 8 months before by biopsying a lesion in the left leg. The exam showed the presence of a biphasic vascular spindle-cell growth occupying the entire thickness of the dermis.

Laboratory tests revealed that the patient was seropositive for human herpes virus type 4 (HHV-4; EBV) and HHV-8; she was HIV seronegative. The patient was taking prednisone, 5 mg/day, as maintenance therapy for non-Hodgkin lymphoma.

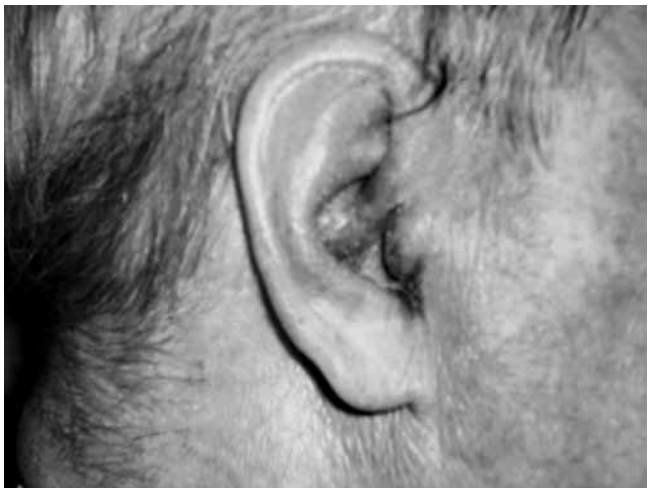

Fig. 1. Lesion of the external ear involving the concha.

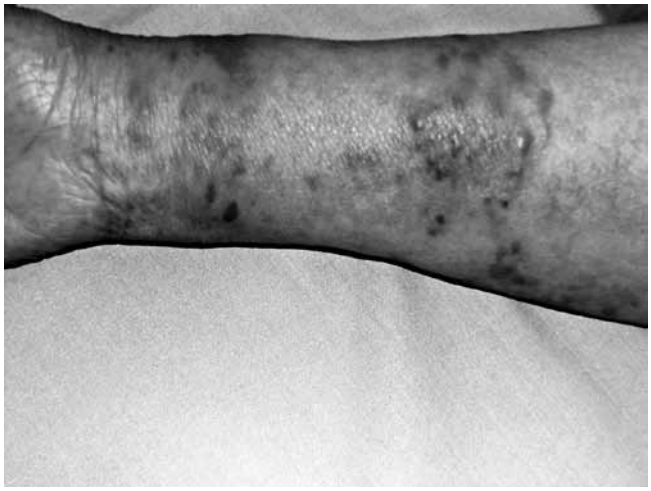

Fig. 2. Multiple skin lesions on the right arm.

The external ear lesion was treated with a local disinfectant and with periodical toilette under microscopic guidance (local medication with gentamicin and betamethasone), thus avoiding the onset of infections and accumulation of debris in the external auricular canal. This led to rapid clearing of ear symptoms, while the macular lesion did not resolve.

At follow-up, after 18 months, no other localisations have appeared in the external ear.

Discussion

Four main clinical presentations of KS have been described: classic (sporadic), African (endemic), iatrogenic (immunosuppression-associated) and AIDS-associated (epidemic). Lesions are bluish-red macules or nodules and usually have multiple cutaneous localisations, but also lymph nodes and viscera have been described at the sites of presentation [11]. The literature focuses particularly on HIV-related KS. In contrast, the other types of KS are underrepresented. About 60% of non-AIDS KS are localised on the skin (lower and upper limbs or trunk), and the head and neck is rarely involved [12-15]. The most recurrent sub-localisation of the head and neck is the oral cavity. The oropharyngeal and conjunctiva mucosa have been observed in immunosuppressed-associated KS. The incidence of auricular lesions is lower, but in recent years has increased likely due to the greater use of immunosuppressive agents (i.e. organ transplantations, diffusion of chemotherapy) [11 16 17]. At onset, they can appear as violaceous maculae that can become nodules or ulcerous. Normally the sites of tumour are coexistent and multifocal. For non-AIDS related KS, the male to female ratio is significantly lower [15]. Nevertheless, the mean age was also over 50 years. While most cases seen in Europe and North America occur in elderly men of Italian or Eastern European Jewish ancestry, the neoplasm also occurs in several other distinct populations:

young black African adult males, prepubescent children, renal allograft recipients and other patients receiving immunosuppressive therapy [18].

The aetiology of KS is unknown. However, it has been reported that several epidemiologic and environmental factors, as well as immunosuppression, play a role in the development and clinical course of the disease. In the last decade, epidemiologic and biologic evidence has suggested that a recently discovered herpes virus, namely KS herpes virus or HHV-8, is a required infectious cofactor responsible for all known forms of KS [18]. In particular, in non-AIDS associated KS immunodeficiency of any kind, iatrogenic, due to malignancy, tuberculosis [19] or chemotherapy has been claimed to be the main causal factor in the development of KS [20]. In the case presented, the previous history of miliary tuberculosis as well as previous chemotherapy could be related to the development of KS, as sources of immunodepression.

KS has a similar histopathologic appearance in all clinical subtypes. The early lesion (patch stage) is characterised by a proliferation of small veins and capillaries around one or more dilated vessels. A pronounced mononuclear inflammatory cell infiltrate, including mast cells, is often noted, as are scattered erythrocytes and hemosiderin deposits. There may be inconspicuous perivascular proliferation of spindle cells, but cellular atypia is minimal.

More advanced lesions are nodular and show increased numbers of small capillaries or dilated vascular channels interspersed with proliferating sheets of sarcomatous or atypical spindle cells, often with large numbers of extravasated erythrocytes and abundant hemosiderin deposition [11].

Main therapeutic options for KS include systemic treatments (i.e. chemotherapy or biological therapy particularly with recombinant interferon-α [IFN-α]), due to its immunomodulating and anti-angiogenetic properties [21] and local treatments (i.e. surgical excision; radiotherapy) mainly indicated for selected, small lesions. Optimal therapy for KS patients is still undecided in the literature as systemic therapy can be given in disseminated, progressive or symptomatic KS, while surgical excision and radiotherapy can be reserved for local disease [22]. It has been advocated that new advances in understanding the pathogenesis of KS, particularly the role of angiogenesis and growth factors, may help in the future development of additional therapies and in establishing a standardised protocol [22].

Conclusions

Auricular involvement in KS is relatively rare: we found 4 previously-reported cases of KS involvement of the external ear [11 16 17 23]. In 1983, Stearns described a case of KS arising as a primary lesion in the external auditory meatus, treated with surgical excision [11]. In 1998, Delbruck described a case of external auditory canal KS with extension to mastoid, treated with radiotherapy [16]. Another case report concerns a solitary lesion of KS occurring in the helix of the ear in a healthy young patient, treated with surgical excision [17]. The last case described is a KS that developed in an HIV-negative patient affected by tuberculosis, which completely regressed with antituberculous therapy [23].

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