MALIGNANT MELANOMA OF THE SKIN: A CASE REPORT FROM THE EASTERN REGION (DAMMAM CENTRAL HOSPITAL), SAUDI ARABIA AND EPIDEMIOLOGICAL REVIEW

Khalid I. Yagi, FRCSE*, Hamid U. Wani, FRCS†, Mukund B. Tinguria, MD‡, Daleem M. Al-Qahtani, MBBS*
Departments of *Plastic Surgery, †General Surgery and ‡Pathology, Dammam Central Hospital, Dammam, Saudi Arabia

Worldwide malignant melanoma is the commonest tumor of the skin, though it occurs in many other organs. It is a serious disease, the prognosis of which is poor if not detected and treated early. The disease is on the increase in many countries e.g. USA, England and Wales, Australia, and many parts of the world. Saudi Arabia is a vast country which is undergoing rapid development with a changing social and economic environment. To the best of our knowledge, not many studies or reports of malignant melanoma have issued from the Eastern Region. It is therefore, important to report this case and review the incidence of the disease.

Key Words: Malignant melanoma, Skin, Eastern Region, Foot, DCH (Dammam Central Hospital).

CASE REPORT
A male Saudi patient, 50 years old was admitted to the Plastic Surgery Unit at Dammam Central Hospital (DCH), complaining of a swelling in the plantar aspect of the left foot near the heads of the metatarsals. The swelling was of about 2 years duration gradually increasing in size. It was a firm brownish swelling measuring 2 cm x 1.5 cm, with no bleeding or ulceration. He was treated at health centers and clinics by chemical cauterization for what was diagnosed as a corn but with no improvement.

History revealed that he was a diabetic controlled on treatment for non-insulin dependent diabetes mellitus (NIDDM). General examination showed normal systems and at left lower limb no enlarged lymph nodes at the popliteal area or groin. His investigation showed ESR 70 mm/hour and other blood
investigations were within normal limits. His chest X-ray was normal and his left foot X-ray showed no bony abnormality.

In view of the history and previous treatments, a plan of excision and histopathology examination was made. Paraffin sections stained with Haematoxylin – Eosin and Masson’s Fontana showed features of malignant melanoma. The tumor was made up of epithiloid and spindle cells arranged in diffuse sheets and nests (Fig. 1). Two to three mitoses were seen per high power field. The cells were large with pleomorphic, hyperchromatic nuclei with prominent nucleoli and moderate amount of cytoplasm. Intracellular melanin pigment was seen in large areas (Fig. 2).

Figure 1: Section showing histological features of malignant melanoma

Figure 2: Section showing histological features of malignant melanoma (highpower field)
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The epidermal component was seen in focal areas. The tumor infiltrated the subcutaneous fat (Clark's Level V) and showed features of Breslow's high-risk category (thickness 14 mm).

A second surgery of wide excision under general anesthesia was carried out and the defect was covered by split thickness skin graft. The patient's recovery was uneventful and the graft took successfully (Fig 3). The patient was referred to the oncologist for further treatment.

DISCUSSION

Since malignant melanoma is a rare disease in Saudi Arabia, its diagnosis may be delayed or missed particularly when the lesions are on the plantar aspect of the foot. It may even be diagnosed as planter wart, traumatic lesions and foreign body granulomas, pyogenic granuloma, kaposi sarcoma and haemangioma (sclerosed or thrombosed).

Malignant melanoma is a serious disease with bad prognosis if diagnosis is missed. Its early detection and treatment gives a better chance of survival. In his study for survival after malignant melanoma, Osterlind found that a localized disease had far better survival expectancy than those with disseminated disease and that younger patients had a better prognosis than older ones and women had a higher relative survival rate than men. Our patient had a localized lesion on the plantar aspect of the foot which had been misdiagnosed. It is reported that lesions at plantar aspect are associated with higher prevalence of clinical misdiagnosis compared to lesions on dorsal aspect of the foot or other sites. Also the survival of patients with lesions on the plantar aspect is significantly shorter. Malignant melanoma is reported to be increasing in the whites, Africans and other populations.

The sun and ultraviolet light are known factors in the causation of malignant melanoma but it seems that factors other than exposure to the sun must be investigated since in Saudi Arabia clothing gives protection against the sun and its effects. Other causes of its occurrence on the sole must be considered. The trauma of walking bare footed as is the customary with people in remote areas of the country could act as a trigger on genetic or familial factors or the presence of prepigmentation that could be premalignant lesions.

In Eastern Saudi Arabia, in a study of cancer at Dhahran Health Center and in a population of 428 patients diagnosed with cancer, there was no mention of malignant melanoma even though the frequency of cancer has changed. In one of the largest reviews of cancer cases treated in the Kingdom at King Faisal Specialist Hospital and Research Center (KFSH) at Riyadh, malignant melanoma was found to be a rare disease in Saudi Arabia representing 0.6% in frequency in the registry for cases referred from all geographical regions. This low frequency could be linked to social and cultural practices e.g. conservative dressing. In the review and experience of KFSH on malignant melanoma from 1975-1982, it was noted that out of 22 patients, 11 had their lesion on the foot. It was unclear whether these patients had a preexisting mole.
or not, but the need to look into the risk factors cannot be overemphasized.

In both hospital and population-based study of cancer in the Eastern Region, no specific mention was made of malignant melanoma. This shows that though rare, it is on the increase. A study from the northern region by Charalingappa, et al, showed the very low incidence of skin cancer at large. A report from the Gizan province over a period of 11 years, recorded only 2 patients with malignant melanoma though other skin cancers were common.

In a comparative study in Medina it was noticed that skin cancer excluding malignant melanoma ranked 4th among the 14 leading malignancies. In studies from such regional hospitals as Abha, Albaha, and Central Laboratory Jeddah, again skin cancer was high on the list of malignancies.

It is striking that malignant melanoma is so rare. The probable causes of this low incidence could be the fact that besides keeping out of the sun during the day, the conservative clothes of Muslims in Saudi Arabia provides protection from ultraviolet rays. It is also remarkable that malignant melanoma represents 11.75% of all malignant skin lesions at Asir Region, occurring mainly at the extremities 87.6% and 81.3% showed acral distribution. The frequency of melanoma here is higher than recorded in studies from other regions.

A high incidence of malignant melanoma was also reported in study from Sudan where it represented 3% of all cancer cases, the majority of which were lower limbs particularly the sole of foot and acral distribution. The same observation was noted in a study from Nigeria.

CONCLUSION
The incidence of malignant melanoma is increasing worldwide and with a cancer registry now in place, its incidence in Saudi Arabia needs to be investigated so that the rise in the number of cases could be documented. As noted in Sudanese patients, there is ample evidence that malignant melanoma develops in a pre-existing mole or pre-pigmentation.

It is recommended that epidemiological study to survey the presence of prepigmentation of the soles of Saudi patients as well as other factors that lead to malignant changes be they genetic, sun-related or trauma to pre-existing moles be planned.

So far malignant melanoma appears to be rare in Saudi Arabia and this is a contributory factor in its misdiagnosis. Since the survival and prognosis depends on early diagnosis, the need for a general public education and an increased doctors’ awareness of the clinical picture of the disease is vital for the prevention and treatment of this deadly cancer.

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