SUBUNGUAL MALIGNANT MELANOMA ON THE RIGHT INDEX IN A DENTIST AFTER PROLONGED OCCUPATIONAL EXPOSURE TO X-RAYS

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SUMMARY

An 80 years old male, Dentist, suffering from Subungual Malignant Melanoma in his right index, was presented. The Dentist during the dental radiograph used to support with his right finger the x-ray film into the mouth of his patients. The growth of this MM can be connected with the professional and prolonged x-rays exposure.

CASE REPORT

An, 80 years old, male Dentist was examined in our Out Patient Dermatological Clinic. The patient was presented with an irregular and eroded lesion on his right index accompanied by distractive changes of the nail plate. The lesion was erythematous with white spots and the irregular border corresponding to the nail matrix was brown and papular, exciding the nail limits (sign of Hutchinson). The lesion was symptomless and it was onset six months ago (Fig. 1).

Family History: Malignant Melanoma was not observed in other relatives in his family.

Occupational History: The Dentist has stopped his work 5 years ago. During the dental radiograph, the Dentist used to support by his right index the x-ray dental radiographic film, into the mouth of his patients. This habit continued for 25 years (1960-1985). Clinically no signs of actinodermatitis were observed in his hands.

Treatment: The clinical diagnosis confirmed histologically. It was a Subungual Malignant Melanoma (Clark's level = 2, Breslow tumor thickness = 1mm). The treatment was made by amputation the right index at the level of the metacarpophalangeal joint.

Follow-up: The patient died in his 85 years of age from a cerebral haemorrhage. During these five years of follow-up, no metastasis of melanoma was detected.

Figure 1. Subungual malignant melanoma in the right index of a Dentist, 80 years old.

DISCUSSION

Subungual Malignant Melanoma consists of a subcategory of Acral Lentiginous Melanoma. The cases of this category consists of 10% among the various Clinical types of Malignant Melanoma [1,2,3,4] (Table 1). In our patient the clinical picture was typical.

Several predisposing factors of Malignant Melanoma have been reported [1,2,3,4] (Table 2).

It is of interest that a higher incidence of Malignant Melanoma was detected among employees at the Livermore Laboratory (Atomic Energy Research Laboratory) on the West coast of the North America [5,6]. However this observation has not been detected by other scientists [2].

In our patient the growth of Malignant Melanoma should be directly connected with the prolonged occupational exposure to x-rays. The phenomenon of the late appearance of MM (during his retire and 5 years after stop working) shows similarities with the cases of MM growth on areas of severe sunburns which performed several decades before [7, 8, 9]. Thus, we believe that as a severe sunburn represents a risk factor for MM [7, 8, 9], similarly the exposure to small doses of x-rays can be considered to be a “risk factor” as well.

Table 1. Clinical Types of Primary Malignant Melanoma [1, 2, 3, 4]

1. Lentigo Malignant Melanoma	5 %
2. Superficial Spreading Melanoma	70 %
3. Nodular Melanoma	15 %
4. Acral Lentiginous Melanoma and Subungual Melanoma	10 %
5. Special Types	
a. Amelanotic Melanoma	
b. Mucosal Melanoma [conjuctival membranes, oral cavity, genital and rectal regions]	
c. Naevoid Melanoma (*minimal deviation melanoma, small-cell melanoma)* [the small naevoid cells cited in the dermis. The lesion may be confused with compound naevi]	

Table 2. Risk Factors for Cutaneous Malignant Melanoma [1, 2, 3, 4]

1. Family history of Melanoma:
   2-5 % of patients give a positive family history
2. Phenotypic Factors:
   blue eyes
   blond, fair, or red hair
   fair skin, Light complexion
   Nevi [Dysplastic nevi, Congenital melanocytic nevus, Total number of Melanocytic nevi]
3. Response to sun exposure:
   freckling tendency
   inability to tan
   tendency to sunburn
   severe sunburn in the past
4. Socioeconomic status
5. History of prior melanoma
6. Immunosuppression
7. Hormonal factors [pregnancy, contraceptives]

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