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REVIEW ARTICLE

MELANOMA CARE PATHWAY IN UNITED KINGDOM: A REVIEW

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ABSTRACT

Melanoma is a malignant cancer that occurs in melanocytes and is the most common cancer in people aged 15-34 in the UK. The article aimed to provide the backgrounds of the appropriate care pathway of melanoma included the prevention, diagnosis, treatment e multi-professional approach based on literature review

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INTRODUCTION

Melanoma is a malignant cancer that occurs in the melanocytes (British Medical Journal [BMJ], 2014). These cells are found throughout the dermis and are dendritic cells in the basal layer of the skin (Dzwierzynski, 2013). Ninety-five percent of all melanomas are being localised in the skin, but it was possible to find extra-cutaneous sites such as mucosal surfaces, parenchymatous organs, the retroperitoneal area and the ocular ball (Baderca, Vincze, Balica, and Solovan, 2014; Cancer Research UK, 2014). Melanoma is also the most common cancer in people aged 15-34 (National Health Service [NHS], 2014). It was estimated that 13,000 new cases of malignant melanoma are diagnosed each year in the UK with 2,000 people dying every year from the disease (Cancer Research UK, 2014; NHS, 2014). The risk factors for melanoma are white skin, fair hair, light eyes, sun sensitivity, tendency to freckle, family history of melanoma, dysplastic nevi, increased numbers of typical nevi, large congenital nevi and immunosuppression (Evans, Madhunapantula, Robertson, and Drabick, 2013). Exposure to ultraviolet radiation is the main cause of approximately 30% of cutaneous melanoma (Madhunapantula, and Robertson, 2012).

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In the UK"86% (90% in males and 82% in females) of malignant melanoma skin cancer cases each year are linked to major lifestyle and other risk factors''(Cancer Research UK, 2014). There are four big groups of invasive cutaneous melanoma: nodular melanoma, superficial spreading melanoma, lentigomaligna and acrallentiginous (Evans, *et al*., 2013). Seventy percent of cutaneous melanomas are the superficial spreading subtype, which has two phases: the horizontal and the vertical phase. For the horizontal growth phase a surgical excision is sufficient to treat cancer for the majority of patients. However, when the superficial spreading melanoma infiltrates into the dermis and there is metastatic potential, the stage is called vertical and the treatment and prognosis will be difficult (Evans, *et al*., 2013). At last, all cutaneous melanoma subtypes has a neurotropism that usually metastasizes to brain (Sloan, Nock, and Einstein, 2009; Gorantla, Kirkwood, and Tawbi, 2013). The NHS (2014) differentiates an ordinary mole from a suspicious melanoma using an ABCDE checklist of signs. The "A"is for the asymmetry;"B"refers to the borders that are usually notched, ragged or/and irregular borders; ''C''for the colour; the "D"makes use of the diameter of the mole;"E"is for enlargement or elevation of a mole (Brandao, Pereira, Gontijo and Bittencourt, 2013; NHS, 2014). Also, the patientusually notice some symptoms like itching, painful, inflammation and abnormality in shape and colour (Cancer Research UK, 2014)

Staging is the process of determining how much cancer is in the body, where it is located and a description of the severity (American Joint Committee on Cancer [AJCC], 2015). There are multiple methods and patterns for staging melanoma cancer.Firstly, the Breslow grading considers the thickness of the tumour and divides the disease into four stages (Cancer Research UK, 2014). Secondly, the Clark scale measures how deeply the melanoma is sited and which levels of the skin are affected (Cancer Research UK, 2014). Thirdly, the Tumour Nodes and Metastasis (TNM) staging made by the American Joint Cancer Committee (AJCC) (AJCC, 2015; Balch, *et al*., 2009).Finally, melanoma can be summarised for clinical practice in numerical stages: Stage 0, melanoma is only in the epidermis and have not started to spread; Stage I, localised disease; Stage II, tumours more thicker than 1 mm and ulcerated or more thicker than 2 mm; Stage III, regional lymph node involvement; and Stage IV, distant metastasis (Cancer Research UK, 2014; Ornellas, Quirino, Wisnescky, Rezende, and Faria, 2007). If detected at an early stage then the tumour can be removed with a surgical excision and followed up (Dzwierzynski, 2013). Early-stage melanoma has an overall survival rate of nearly 100% (BMJ, 2014). By contrast, if the disease is discovered only at a late stage, if there are metastases, then this denotes a poor prognosis with only few months to live (Brandao, Pereira, Gontijo and Bittencourt, 2013). In the UK, 90% of people diagnosed would live more than ten years, a better prognostic than other countries (Cancer Council Australia and New Zealand Guidelines Group, 2008; Cancer Research UK, 2014).

MATERIALS AND METHODS

Melanoma is a health problem for NHS for this reason some documents had been released and others are in development, e.g. the Melanoma guidance being developed by NICE which was released in July of 2015 (NICE, 2015). Replacing the current NICE guideline (2006) as the referenced guideline for the care of melanoma in the NHS. Besides this, others institutions in the UK and Europe have previously developed some guidelines for melanoma care. By way of an example the revised UK guidelines for the management of cutaneous melanoma of British Association of Dermatologists written by Marsden, *et al*. (2010), the Cutaneous Malignant Melanoma (MM) Management Guidelines (South-East Scotland Cancer Network, 2012), the Cutaneous Melanoma: ESMO Clinical Practice Guidelines of European Society of Medical Oncology (ESMO) (2012) and the Scottish Intercollegiate Guidelines Network (SIGN) (2003).Regarding these guidelines, some points are well understood and are common themes of all documents.

DISCUSSION

Prevention: The NICE guideline (2006) and the ESMO guideline (2012) stating the appropriate care pathway for the patient include prevention measures, for example: mass-media skin cancer prevention campaigns, primary prevention of skin cancer by health professionals and others within and outside the NHS and protect people from UV exposure.

Diagnosis: Early diagnosis of melanoma is likely to make management easier and more efficient than treatment in a late-stage (NICE, 2006). In general, the patient is who detects alterations in moles; in this situation the patient should go to the general practitioner (GP) and relates the history of a new and/or changing lesion to their doctor (Marsden, *et al*., 2010). At the initial clinical examination the whole skin surface should be examined by a local GP under proper lighting, patients should also be encouraged to self-check regularly and a careful clonal history of specific changes in the lesion should be asked (NICE, 2006; South-East Scotland Cancer Network, 2012). The GP can also reassessing the patient with two months, monitoring with photography the evolution (or not) of pigmented lesion (SIGN, 2003; NICE, 2006). After this, if the suspicious of melanoma or skin cancer persists, the general practice will refer the patient to a local skin cancer multi-disciplinary team (LSMDT). Normally, the LSMDT should do the gold standard examination for melanoma, which is the biopsy with histologic examination processed by an experienced pathology institute (ESMO, 2012; NICE, 2006; SIGN 2003). Additionally, others tests can be used in the diagnosis such as sentinel lymph node biopsy, dermatoscopy, serum lactate dehydrogenase (LDH), CXR, chest/abdominal/ pelvic CT scan, whole body PET scan, CT or MRI brain imaging, BRAF mutational analysis (BMJ, 2014). The specialist also should do clinical examinations differentiating the benign lesion from cancer (SIGN, 2003).

If it were not possible to distinguish the melanoma from a benign melanocytic lesion, the patient would be referred to a specialist skin cancer multi-disciplinary team (SSMDT) (Marsden, *et al*., 2010). Remembering that patient opinion is mandatory to decide the procedure to be utilised (NICE, 2006). As well, the feedback to GP is necessary when the patient was diagnosed with a benign tumour (NICE, 2006). According to this guidelinein England the target for patients with malignant melanoma referred through the 2-week urgent GP referral route is thatthey must start their first definitive treatment within 62 days of GPreferral (NICE, 2006).

Treatment

The treatment of melanoma will be determined according to the stage of the disease and decisions from a multi-disciplinary team approach. When the pathology confirms the diagnosis of melanoma, the next step is identify the evidence or not of lymph node metastases. If negative, the early melanoma can be treated with a wide local excision. Intermediate stage melanoma (stages II-III) with lymph nodes metastases should be treated with wide local excision and adjuvant chemotherapy or biological therapy or radiotherapy depending on the clinical exam. At advanced stages of melanoma, the LSMDT should consider referring to an SSMDT for possible clinical trial or an appropriate resolution of the problem. Normally, at this phase the adequate option will be surgical excision of systemic melanoma metastasis and choose an adjunct treatment between systemic immunotherapy with vemurafenib/ dabrafenub/ ipilimumab/ interferon, systemic chemotherapy with dacarbazine/ carmustine/ vinblastine/ cisplatin/ temozolomide, radiotherapy or targeted therapy for unresectable metastatic genetic-mutant (BRAF) melanoma (BMJ, 2015; NICE, 2006). Some side effects should occur during the treatment process. So, MDTs should provide access to psychological support services for skin cancer patients (ESMO, 2012).

Follow-up

After the treatment the the follow-up is advised because three main reasons: detect recurrence, detect further primary

melanomas and the third is to provide support, information and education (Marsden, *et al*., 2010). Furthermore, the follow-up is an opportunity to educate the patient about new and recurrent lesions and to provide help and psychological and emotional support for patients and their families (NICE, 2006).

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