

Cutaneous Malignant Melanoma in Northern Ireland: Epidemiology and Investigation into links between Vitamin D levels, Socioeconomic Status and Breslow Depth

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Results

Epidemiology

440 patients:

- 54% female
- 46% male

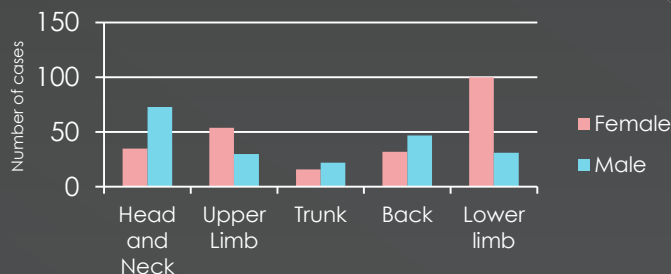
Average age at presentation:

- Females: 59
- Men: 67

Average Breslow Depth (mm):

- 2.61 (Range 0.17 – 27)
- Females: 2.16mm
- Males: 3.10mm (significantly higher($p=0.001$))

Site:



Introduction

The incidence of cutaneous malignant melanoma (cMM) is increasing. Historically the incidence of cMM has been associated with higher socioeconomic status (SES) in Northern Europe and other parts of the world. Vitamin D deficiency at presentation is associated with increased tumour thickness and poorer outcomes.

Aims

We aimed to examine the epidemiological and histopathological characteristics of cMM in NI and to determine if SES and Vitamin D levels correlated with incidence of cMM or Breslow Depth(BD).

Methods

A retrospective review was performed from August 2015 - March 2020. Patients diagnosed with cMM were identified from electronic theatre records and a prospectively-collected database; further information was gained from paper and electronic clinical records. Socioeconomic status (SES) was determined by the NI Multiple Deprivation Measure 2017 which ranks postcodes in Northern Ireland from 1 (most deprived) to 890 (least deprived).

Vitamin D Levels, Socioeconomic Status and Breslow Depth

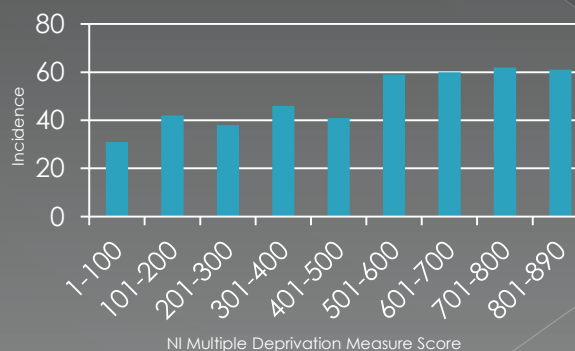
- ◆ Vitamin D levels assessed in 117 patients (27%)
- ◆ 51 patients had insufficient or deficient Vitamin D (44%)
- ◆ Vitamin D supplementation for insufficient/deficient levels – 75%
- ◆ There is a trend between lower vitamin D levels and increasing Breslow Depth (Pearson Correlation coefficient -0.14).
- ◆ Higher SES correlated with increased incidence of cMM (Correlation coefficient (CC) 0.922).
- ◆ This did not correlate with thicker tumours (CC -0.020).

BD (mm)	Average Vitamin D Level (N=117)	Average NIMDM17 score (N=440)
≤1mm	62	497
1.01-2	56	498
2.01-4	59	521
>4	46	507

Discussion

Despite being included in the NICE guidelines since 2015, almost three-quarters of patients did not have Vitamin D levels checked. Our results show a weak negative correlation between vitamin D and BD. Interestingly, higher SES was related to higher incidence of cMM but with presentation at an earlier stage of disease. In males, the commonest site was the head and neck followed by the back which is a variation from the rest of the UK where the back is the most common site in males.

Incidence per NI Multiple Deprivation Measure Group



NI Multiple Deprivation Measure Score