IDS 2015 Abstract Submission

Topic: Computer aided diagnosis

IDS2015-ABS-250

ACCURACY OF A COMPUTER VIDEO SYSTEM IN SKIN CANCER SCREENING IN GERMANY. CAN A SYSTEM LIKE THIS BE A SUPPORT FOR A GENERAL PRACTITIONER?

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What is your preferred method of presentation?: Oral only

Content: In July 2008 skin cancer screening was initiated in Germany. The program is carried out by a general practitioner or a specialized dermatologist. For general practitioners there might be experience lacking for the secure judgment of findings, thus it is requested that he refers to a dermatologist.

So using a computer assisted diagnosis system, well established on the market, could give a second opinion for judgement.

In the study we analyzed the usefulness of a commercial computer system to support accuracy in melanoma recognition, when applied to screening patients in a private dermatology office in a suburban setting. All skin lesions potentially representing skin cancer were excised over a period of 9 months and included in the study with a diagnosis verified by histology results.

The skin lesion parameters of the computer system result in a score in the range of -5 to +5. There is no clear cut-off, the higher this score the more likely it is the lesion to be a melanoma.

1064 patients were enrolled from 1st of March till 31st December 2013 and of 535 patients 887 lesions were selected and biopsied. The majority (696) are melanocytic naevi, 22 malignant melanomas, 15 melanomas in situ, 83 seborrhoic keratoses and 71 basal cell carcinomas. Information for each case was recorded, including the score provided by the equipment,.

The data reveal that the system was unable to get both the sensitivity and the specificity above 70% for the task of discriminating between malignant and benign lesions. A sensitivity of 85% is obtained only if sacrificing specificity down to 40%.

Before it is recommendable to use such a computer assisted diagnosis system to support an unexperienced doctor further studies are necessary to develop more accurate systems.

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