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Cutaneous Melanoma Surveillance by means of Process Mining

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Introduction

The aim of this study is to evaluate the feasibility of process mining using health data collected during routine care to improve the follow-up care and surveillance of cutaneous melanoma (CM) patients. Sequences of events identified by process mining will be compared to existing treatment guidelines of different melanoma stages and show physicians when their treatment varies from the guideline process.

1. Methods

The Department of Dermatology at the Medical University of Vienna operates a melanoma registry, which currently covers 2.100 patients. In order to analyze the processes, information about transfer from patients between different clinics within the hospital as well as treatment information are extracted from the Hospital Information System (HIS) and combined with the melanoma registry.

2. Results

The created logs are analyzed in the ProM tool. Using HIS data results in more exhaustive models with 30% more events compared to only using the melanoma registry data. The higher the AJCC stage the better is the compliance to the guidelines.

3. Discussion

Unstructured health records are used to evaluate the detected processes. Pseudonymized patients data are used. Beside compliance to guidelines, the tumor progression depending on the compliance will be tested.

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