ABSTRACT BOOK ABSTRACTS



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SKIN CANCER (OTHER THAN MELANOMA)

## ALGORITHMS FOR ASCERTAINING KERATINOCYTE CARCINOMAS USING HEALTH INSURANCE CLAIMS

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Introduction: Keratinocyte carcinomas (KCs) are often excluded from cancer registries despite their high incidence. Alternative indirect methods are therefore needed to capture KC cases for epidemiologic purposes.

Objectives: To propose and test the validity of using health insurance claims-based algorithms for KC ascertainment.

Methods: This nested cohort study uses public health insurance claims and patient charts from dermatologists providing general skin care in a large urban Canadian metropolitan center. From 2014 to 2016, medical records with patient demographics, KC diagnoses and treatments, as well as prescribed medications and the insurance diagnostic and service codes associated with KCs were reviewed and abstracted. Algorithm development was based on combinations of codes pertaining to the procedural and prescription treatments for KCs.

Results: Among 734 patient cases from a validation cohort, 54 cases had a diagnosis of KC. Our highest-performing algorithms included the diagnostic code for "other malignant neoplasm of skin" (ICD-9: 173) with either procedural codes for Mohs micrographic excision, biopsy, local excision, curettage and electrosurgery, cryotherapy, skin graft, advancement flap, radiation therapy and photodynamic therapy, or prescriptions for imiquimod, 5-fluorouracil, or vismodegib. One such comprehensive algorithm achieved high sensitivity, specificity, positive predictive, and negative predictive values of 89.1% (95% confidence interval: 80.9-97.3%), 99.3% (98.6–99.9%), 90.7% (83.0-98.5%), and 99.1% (98.4-99.8%), respectively.

Conclusion: The claims-based algorithms in this study using health insurance data for diagnosis, service codes and medical prescriptions can be utilized as an indirect means of ascertaining KCs with excellent diagnostic accuracy.





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