

# **A Decade-Long Analysis of Cholangiocarcinoma Incidence and Predictors in Primary Sclerosing Cholangitis at a South African Tertiary Centre**

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## | Abstract

Primary sclerosing cholangitis (PSC) is a major risk factor for cholangiocarcinoma (CCA). Data on the incidence and predictors of this complication in sub-Saharan African populations are limited. This study aimed to determine the incidence of CCA in a South African cohort of patients with PSC and to identify associated clinical and laboratory predictors. A retrospective cohort analysis was conducted at a tertiary academic centre. Medical records of all patients diagnosed with PSC over a decade were reviewed. Data on demographics, clinical presentation, laboratory parameters, imaging, and histology were collected. Incidence rates were calculated, and logistic regression analysis was used to identify predictors of CCA development. Among 127 patients with PSC, 18 developed CCA, yielding an incidence of 14.2%. The presence of a dominant stricture on imaging was the strongest independent predictor of CCA (odds ratio 5.4, 95% confidence interval 1.8–16.1). Older age at PSC diagnosis and elevated serum bilirubin at presentation were also significantly associated with CCA risk. The incidence of CCA in this South African PSC cohort is substantial. Specific clinical and radiographic features at presentation can help identify patients at higher risk for this complication. Enhanced surveillance for CCA, including closer imaging follow-up, is warranted in PSC patients presenting with a dominant stricture, older age, or significant cholestasis. Prospective multicentre

studies are needed to validate these findings across the region. Cholangiocarcinoma, primary sclerosing cholangitis, incidence, predictors, South Africa, dominant stricture This study provides a detailed analysis of CCA incidence and predictors in a South African PSC cohort, addressing a notable gap in regional epidemiological data.

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