



# Skin Cancer's Presentation and Management at a Tertiary Referral Center before and after Covid-19 Pandemic, A Study Protocol

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**Abstract**

Basal Cell Carcinoma (BCC) and Cutaneous Squamous Cell Carcinoma (CSCC) represent very common types of cancer, whose incidence is rapidly rising.

During the COVID-19 pandemic, several studies reported a significant decrease in skin tumours operated compared with the previous years, with a concomitant increased proportion of treatment of large skin tumours.

Approaching the official end of the COVID-19 pandemic, we decided to search and study the databases at our tertiary referral center of maxillo-facial surgery with the main objective of ANALYZING epidemiological, clinical and surgical trend of CSCC and BCC during the last five years, therefore we developed the present study protocol.

Retrieved results will be shared in an online database, presented both in the main text and appropriate tables. Discussion will take into account previous published studies to draw coherent conclusions of the original retrospective study.

Received: Nov 26, 2022

Accepted: Dec 15, 2022

Published Online: Dec 19, 2022

Journal: Annals of Epidemiology and Public health

Publisher: MedDocs Publishers LLC

Online edition: <http://meddocsonline.org/>

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**Keywords:** Skin Cancer; Cancer diagnosis delay; Covid-19 pandemic; Covid-19 Lockdown effects.

## Introduction

According to the recent guidelines of National Comprehensive Cancer Network (NCCN), Basal Cell Carcinoma (BCC) and Cutaneous Squamous Cell Carcinoma (CSCC) are respectively the first and second more common types of skin cancers [1]. Some studies showed that CSCC incidence rates increased more rapidly than BCC during the first two decades of the third millennium, reducing the difference in incidence between these skin cancers phenotypes [2]. Although rarely metastatic, CSCC can produce substantial local destruction along with disfigurement and may involve extensive areas of soft tissue, cartilage, and bone of the face requiring surgical treatment [3]. Patients with CSCCs generally have a good prognosis, with a 5-year sur-

vival rate of 90% [4]. Preliminary epidemiological studies conducted during the first phases of pandemic period reported a significant decrease in skin tumours operated compared with the previous years, with a concomitant increased proportion of large skin tumours operated [5,6]. We previously reported the impact of Italian lockdown on maxillofacial trauma incidence in southern Tuscany [7]. Approaching the official end of the COVID-19 pandemic [8], we decided to search and study the databases at our tertiary referral center of maxillo-facial surgery with the main objective of ANALYZING epidemiological, clinical and surgical trend of CSCC and BCC during the last five years, therefore we developed the present study protocol.

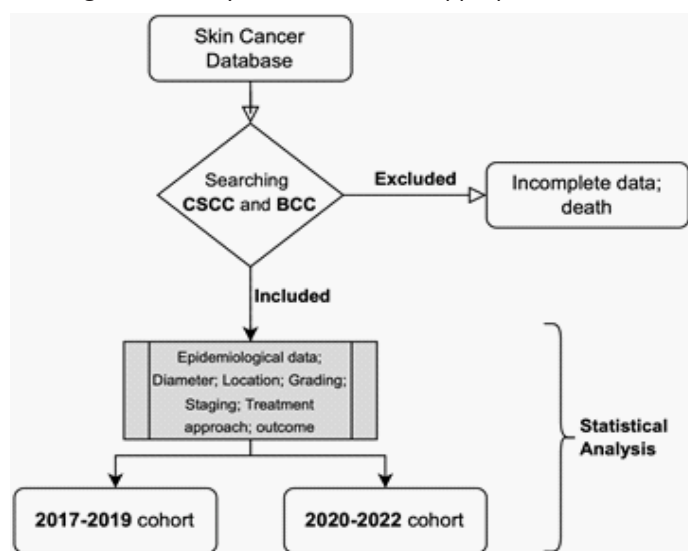


**Cite this article:** Benedetti S, Frosolini A, Gennaro P, Guido G. Skin Cancer's Presentation and Management at a Tertiary Referral Center before and after Covid-19 Pandemic, A Study Protocol. *A Epidemiol Public Health*. 2022; 5(2): 1096.

## Material and methods

Data will be examined in accordance with the Helsinki Declaration, the Italian privacy and sensitive data laws, and the in-house regulations of our hospital. The database will be searched from 01.01.2017 up to 31.12.2022. Patients will be excluded for incompleteness of data and/or death before treatment. For each included patient, epidemiological data, patient's history, hematological and radiological exams, visits, tumour characteristics, histopathological diagnosis and grading, treatment approach and follow-up will be considered. **Figure 1** illustrates the research protocol.

The one-year period incidence of CSCC and BCC will be calculated. Quantitative variables will be reported as mean  $\pm$  standard deviation (SD) and median values. When appropriate, variables will be dichotomized according to median values. The statistical analyses will be performed using the jamovi software (version 1.6, 2021, open access software available at <https://www.jamovi.org>, accessed on 24 November 2022), as previously reported [9]. The chi-square test and Mann–Whitney U test will be used as appropriate. Fisher exact test will be used to compare dichotomized variables and significant results will be expressed as odds ratios (ORs), p-values, and 95% confidence intervals (CI). A p-value  $<.05$  will be considered significant. Further regression analyses will be used if appropriate.



**Figure 1:** Diagram resembling study search protocol.

**Abbreviations:** BCB (Basal Cell Carcinoma); CSCC (Cutaneous Squamous Cell Carcinoma).

## Results, discussion and conclusions

Retrieved results will be shared in an online database, presented both in the main text and appropriate tables. Discussion will take into account previous published studies to draw coherent conclusions of the original retrospective study.

## Funding

This research received no external funding.

## Conflict of interest

The authors declare that they have no conflict of interest.

## Author Contributions

Conceptualization, A.F. and S.B.; methodology, A.F. and S.B.; software, A.F. and; validation, A.F. and; formal analysis, A.F.; investigation, A.F., S.B.; resources, A.F.; data curation, A.F.; writing—original draft preparation, S.B. and A.F.; writing—review and editing, S.B., G.G. and P.G. visualization A.F.; supervision G.G. and P.G. project administration G.G. and P.G.; funding acquisition, not applicable.

All authors have read and agreed to the published version of the manuscript.

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