

Review Article

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Multicenter Epidemiological Review of Appendicular Pathology in the Democratic Republic of Congo: a 10-Year Retrospective Study

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Abstract

Age and sex distribution could not be assessed due to lack of available data in hospital registers.

Objectives: To assess the epidemiology of appendicular pathology in the Democratic Republic of Congo (DRC) and evaluate the rate of histopathological confirmation of intraoperative diagnoses.

Design: Multicenter retrospective descriptive study. Setting: 22 referral hospitals across several provinces of the DRC.

Participants: A total of 8,849 patients clinically diagnosed with appendicitis between 2013 and 2023, out of 147,306 surgical interventions.

Results: The overall frequency of appendicitis was 6%, reaching up to 50% in Bolenge (Grand Equateur). Only 5% of intraoperative diagnoses of appendicitis were confirmed by histopathological examination.

Conclusions: Appendicitis remains one of the most frequent surgical diagnoses in the DRC. However, the lack of systematic histopathological confirmation raises concerns regarding diagnostic accuracy. Routine submission of appendectomy specimens for histopathological examination is strongly recommended.

Strengths and Limitations of this Study:

- Multicenter study including data from 22 hospitals over a 10-year period.
- Provides novel insights into appendicular pathology in the DRC.
- Limited by incomplete access to pathology services and missing data in some hospitals.

1. Introduction

The appendix is a rudimentary organ attached to the cecum. Its function remains uncertain, although some authors consider it as a secondary lymphoid organ due to its richness in lymphoid follicles. Appendicitis is one of the most common surgical emergencies worldwide. In many hospitals in sub-Saharan Africa, diagnosis is mostly clinical and paraclinical support is minimal. Histopathological confirmation of appendicitis is rarely performed, with most appendectomy specimens discarded without examination. This study aims to determine the frequency of appendicitis compared to other surgical pathologies in the DRC and to highlight the very limited use of histopathology for confirmation of this diagnosis.

2. Methods

• Study Design

This was a descriptive retrospective multicenter study covering a 10-year period (2013–2023).

• Setting

Data were collected from 22 referral hospitals across multiple provinces of the DRC, including Kinshasa, Kongo Central, Grand Equateur, Grand Bandundu, Province Orientale, Grand Kasai, Grand Kivu, and Grand Katanga. Data collection: Hospital surgical registers were reviewed. Variables included year, number of surgeries, number of appendectomies, age, sex, and histopathological diagnosis when available.

• Statistical Analysis

Data were entered in Microsoft Excel 2013 and analyzed using SPSS v23.0. Ethical considerations: The study was approved by the institutional ethics committee of the University of Kinshasa. Patient data were anonymized and confidentiality was ensured.

3. Results

A total of 8,849 cases of clinically diagnosed appendicitis were recorded out of 147,306 surgeries performed across 22 hospitals during the 10-year study period (overall frequency: 6%). The frequency varied significantly, reaching up to 50% in Bolenge (Grand Equateur). Histopathological confirmation was available in only 466 cases (5%). In Kinshasa, 20% of appendectomy specimens were confirmed histologically, compared to only 1–2% in other provinces.

4. Discussion

This study shows that appendicitis is among the most frequently diagnosed surgical conditions in the DRC. However, the very low rate of histopathological confirmation (5%) raises concerns regarding diagnostic reliability. In high-income countries, all appendectomy specimens undergo histological analysis, enabling detection of unexpected conditions such as tumors or parasitic infestations. Our findings echo results from other African studies, which also report low rates of pathology confirmation due to limited resources. Strengths of this study include its multicenter design and large sample size. However, limitations include incomplete access to pathology services, retrospective data collection, and possible misclassification of cases.

5. Conclusion

Appendicitis represents one of the most frequent surgical diagnoses in the DRC, with variable frequency across provinces. The lack of systematic histopathological analysis of appendectomy specimens

is a major concern. Routine pathology examination should be encouraged to improve diagnostic accuracy and patient safety [1-5].

Declarations

Funding

None declared.

Competing Interests

None declared.

Ethics Approval

Approved by the University of Kinshasa Ethics Committee.

Patient Consent for Publication

Not required (retrospective anonymized data).

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