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Clinicopathological characteristics of colorectal cancer at a referral hospital in Lampung

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Abstract

Background: Colorectal cancer is a major cause of cancer morbidity and mortality. A description of patient demographics, tumor site, histological subtype, and differentiation may support local service planning.
Purpose: To describe the clinicopathological characteristics of colorectal cancer diagnosed at the Anatomical Pathology Laboratory of Dr. H. Abdul Moeloek Regional General Hospital, Lampung Province, during 2022–2025.
Method: A retrospective, descriptive study reviewed medical and histopathology records. Of 78 identified colorectal cancer records, 40 fulfilled the eligibility and completeness criteria. Age group, sex, anatomical site, histological subtype, and differentiation were summarized as counts and percentages; no hypothesis testing was performed.
Results: Of 40 patients, 29 (72.5%) were aged ≥50 years, and 24 (60.0%) were male. All documented sites in the analytic sample were sigmoid colon (21; 52.5%) or rectum (19; 47.5%). Adenocarcinoma, not otherwise specified (NOS), occurred in 37 (92.5%) cases, and 24 (60.0%) tumors were well differentiated.
Conclusion: The retained pathology records were predominantly from older and male patients, with adenocarcinoma NOS and well-differentiated morphology most frequent. The absence of proximal-colon cases and the exclusion of 38 identified records limit generalizability.

Keywords: Clinicopathology; Colorectal Cancer; Histological Differentiation; Histopathology; Tumor Location.

INTRODUCTION

Colorectal cancer is a major global malignancy, with marked variation in incidence and mortality across regions and age groups. The World Health Organization reported that it is among the most frequently diagnosed cancers and disproportionately affects adults aged 50 years and older. Global cancer estimates and projections suggest that an aging population, changing exposures, and differences in screening may continue to influence the burden (World Health Organization, 2026; Bray, Laversanne, Sung, Ferlay, Siegel, Soerjomataram, & Jemal, 2024; Morgan, Arnold, Gini, Lorenzoni, Cabasag, Laversanne, Vignat, Ferlay, Murphy, & Bray, 2023; Xi & Xu, 2021).

Clinicopathological reporting describes the anatomical site, histological type, and differentiation of each tumor, which are distinct from stage and molecular status. Major reviews emphasize the importance of complete pathology assessment for treatment planning and surveillance (Dekker, Tanis, Vleugels, Kasi, & Wallace, 2019; Kuipers, Grady, Lieberman, Seufferlein, Sung, Boelens, van de Velde, & Watanabe, 2015; Fleming, Ravula, Tatishchev, & Wang, 2012). International classification resources describe colorectal adenocarcinoma and its variants, although changes in the latest WHO edition should not be retrospectively imposed on pathology reports without review of the original slides (Nagtegaal, Odze, Klimstra, Paradis, Rugge, Schirmacher, Washington, Carneiro, & Cree, 2020; WHO Classification of Tumors Editorial Board, 2026).

Indonesian hospital series have described differences in colorectal cancer age distribution, tumor location, and histological patterns (Husnah, Yanti, Arifin, Hasbi, & Ikram, 2024; Tsabit, Trianto, Pratiwi, & Hartono, 2023; Dwipa Decroli & Manjas, 2025). Previous research at Dr. H. Abdul Moeloek Regional General Hospital also characterized

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patients with colorectal cancer (Widya A, Siswandi, Wulandari, & Kumala, 2023). Updated local descriptive pathology data are useful, but the analytic population and exclusions must be reported transparently. Therefore, this study described the available clinicopathological characteristics of colorectal cancer records from 2022 through 2025.

RESEARCH METHOD

This retrospective descriptive observational study was based on secondary medical records and histopathological data from the Anatomical Pathology Laboratory of Dr. H. Abdul Moeloek Regional General Hospital, Lampung Province, Indonesia. Eligible records documented a first colorectal cancer diagnosis between 2022 and 2025 and included the anatomical site, histological diagnosis, and degree of differentiation. Where multiple specimens pertained to the same patient, only the first diagnostic record was counted. Records lacking histopathology, necessary clinical details, or a stated differentiation grade were excluded.

An initial search identified 78 patient records. Total sampling was applied to the records that met the stated criteria; 40 were retained for analysis (51.3% of those identified), while 38 were excluded. Counts by exclusion reason and calendar year were unavailable and were therefore not reported. The study describes the retained records rather than all colorectal cancers treated at the hospital.

Recorded variables were age group (<50 or ≥50 years), gender, tumor site, histopathological subtype, and differentiation (well, moderately, or poorly differentiated). The original recorded terms were retained, without reclassification from later WHO schemes. Only grouped age frequencies were available, so age mean, standard deviation, median, and range were not estimated. Descriptive frequencies and percentages were tabulated; no inferential analyses or subgroup associations were performed.

The source records report an ethics committee reference of No. 129/KEPK-RSUDAM/VII/2026 from Dr. H. Abdul Moeloek Regional General Hospital.

RESEARCH RESULTS

Table 1. Clinicopathological characteristics of colorectal cancer patients (N = 40)

Variable	Results
Age, years, mean ± SD (range)	**56.55 ± 10.72 (36–77)***
Age group (n/%)	
<50 years	11/27.5
≥50 years	29/72.5
Gender (n/%)	
Male	24/60.0
Female	16/40.0
Tumor location (n/%)	
Sigmoid colon	21/52.5
Rectum	19/47.5
Histopathological subtype (n/%)	
Adenocarcinoma NOS	37/92.5
Mucinous adenocarcinoma	3/7.5

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Degree of differentiation (n/%)	
Well differentiated	24/60.0
Moderately differentiated	12/30.0
Poorly differentiated	4/10.0

Table 1 demonstrates that among the 40 included patients, 29 (72.5%) were aged ≥50 years, and 24 (60.0%) were male. The recorded tumor site was the sigmoid colon in 21 patients (52.5%) and rectum in 19 (47.5%); no other location was present in this analytic dataset. Adenocarcinoma NOS accounted for 37 cases (92.5%) and mucinous adenocarcinoma for 3 (7.5%). Well-differentiated tumors were most common (24; 60.0%).

DISCUSSION

Age ≥50 years and male sex predominated in the retained records, consistent with the broad age-associated patterns described in global epidemiology. Nevertheless, both age group and sex are descriptive characteristics here, not evaluated risk factors (Sung, Ferlay, Siegel, Laversanne, Soerjomataram, Jemal, & Bray, 2021; Siegel, Wagle, Cercek, Smith, & Jemal, 2023). Indonesian hospital cohorts have also described substantial differences in clinicopathological distributions by age and setting (Hutajulu, Howdon, Putra, Susanti, Heriyanto, Yoshuantari, Handaya, Utomo, Dwidanarti, Kurnianda, Sudoyo, Ilyas, & Allsop, 2024; Husnah et al., 2024). These findings should not be interpreted as representative hospital incidence or population-based risk estimates.

All tumors in the analytic sample were recorded as sigmoid-colon or rectal lesions. This highly restricted site distribution is unusual: studies at other Indonesian hospitals document cancers elsewhere in the colon (Tsabit et al., 2023; Dwipa Decroli & Manjas, 2025). It could arise from referral or specimen-selection patterns, missing site data, or local coding conventions; none of these explanations can be confirmed without source-record review. Tumor sidedness and anatomical site are clinically relevant, and tumor types may differ between proximal and distal sites (Dekker et al., 2019; Luo, Cen, Ding, & Wu, 2019). Consequently, the reported 52.5% sigmoid and 47.5% rectal distribution is specific to the 40 retained records.

The predominant histological subtype was adenocarcinoma NOS (92.5%); three tumors (7.5%) were recorded as mucinous adenocarcinoma. Conventional adenocarcinoma constitutes the major colorectal carcinoma category in pathology reporting, whereas mucinous adenocarcinoma has distinct morphological and biological features (Fleming et al., 2012; Nagtegaal et al., 2020; Hugen, Brown, Glynne-Jones, de Wilt, & Nagtegaal, 2016). A contemporary cohort reported differences in stage, location, and survival for mucinous tumors, but no similar comparisons are possible from these descriptive counts (Huang, Yang, Sun, Hong, Chen, Gao, & Gu, 2024). The subtype frequencies should therefore not be interpreted as a prognostic comparison.

Well-differentiated cancers comprised 24 cases (60.0%), followed by moderately differentiated (12; 30.0%) and poorly differentiated (4; 10.0%). Comparable Indonesian pathology reports have described variability in grade distributions (Aden, Mulyani, Suchitra, Hilbertina, & Nurhayati, 2025; Tsabit et al., 2023). Histological differentiation should be understood in relation to the grading rules in use when the original report was produced; contemporary classification frameworks may differ in their presentation of grade (WHO Classification of Tumors Editorial Board, 2026). Because records without a stated grade were excluded and other prognostic factors were unavailable, no association with tumor stage, treatment, or outcome can be inferred.

LIMITATIONS

This single-center retrospective case series included 40 of 78 identified records. Exclusion of 38 records without a documented flow by reason or year may introduce selection bias. The dataset contained no proximal-colon cases, so anatomical-site coding and specimen selection may influence the observed distribution. Age was available only in broad groups,

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preventing calculation of a valid age mean, standard deviation, or range. Tumor stage, symptoms, molecular markers, therapy, outcomes, and original slides were not available for analysis. Accordingly, the results are limited to a descriptive profile of the included records and cannot support causal or prognostic conclusions.

CONCLUSION

In the 40 eligible colorectal cancer pathology records from 2022–2025, most patients were aged ≥50 years and male. Sigmoid and rectal sites accounted for all recorded tumors, and adenocarcinoma NOS and well-differentiated morphology were the most frequent histological findings. As 38 of 78 identified records were not included and no proximal-colon tumors appeared in the analytic sample, these proportions should not be generalized to the hospital population or the wider province.

SUGGESTION

Subsequent studies should present a year-by-year flow of identified, eligible, and excluded records with reasons; retain complete anatomical-site coding; and summarize exact ages when available. Reporting specimen type, stage, differentiation, molecular markers, treatment, and outcomes would improve interpretability. Prospective data quality checks and multicentre collaboration could strengthen the representativeness of the clinicopathological description.

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