

Repeated local recurrence of rectal mucinous adenocarcinoma in a young adult after multiple chemotherapy courses: a case report

Ni L. Tatik S. Wahyuni^{1*}, Adeodatus Yuda Handaya², Naomi Yoshuantari³, Bestari Ariningrum Setyawati⁴, Lidya Meidania⁴, Susanna Hilda Hutajulu⁵

¹Division of Hematology and Medical Oncology Trainee, Department of Internal Medicine, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia, ²Division of Digestive Surgery, Department of Surgery, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada/Dr. Sardjito General Hospital, Yogyakarta, Indonesia, ³Department of Anatomical Pathology, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada/Dr. Sardjito General Hospital, Yogyakarta, Indonesia, ⁴Division of Radiodiagnostics and Interventions, Department of Radiology, Faculty of Medicine, Public Health, and Nursing, Gadjah Mada University/RSUP Dr. Sardjito, Yogyakarta, Indonesia, ⁵Division of Hematology and Medical Oncology, Department of Internal Medicine, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada/Dr. Sardjito General Hospital, Yogyakarta, Indonesia

<https://doi.org/10.22146/inajbcs.v57i3.Supplement.24249>

ABSTRACT

Submitted: 2025-09-01
Accepted : 2025-09-04

Colorectal cancer (CRC) is the fourth most common cancer and the fifth leading cause of cancer-related mortality in Indonesia. An increasing incidence of CRC among young patients has been highlighted in several studies. Most reports showed that young patients with CRC were associated with specific clinicopathological characteristics, including more advanced tumor stage, poor histologic features, more mucinous tumors, high recurrence events, and poor responses to standard therapy. A 29-year-old woman presented with a lump in the anal region, hematochezia, and weight loss over two months. Histopathological examination after laparotomy and tumor resection revealed a moderately differentiated mucinous adenocarcinoma of the rectum, stage pT3N1cM0 (IIIB). She had received eight cycles of first-line chemotherapy with Capecitabine monotherapy, then second-line chemotherapy with the FOLFOX regimen for eight cycles, followed by concurrent chemoradiotherapy (CCRT) with Capecitabine, and finally eight cycles of third-line chemotherapy with the XELIRI regimen due to a residual rectosigmoid mass. Post-treatment evaluation showed she was asymptomatic, and an abdominal MSCT scan revealed no residual mass, indicating a complete clinical response. However, ten months later, she experienced recurrent symptoms, including hematochezia and a lump in the anal region. Biopsy of the lesion confirmed mucinous adenocarcinoma of the anorectum with clinical stage rT4bN1aM0 (IIIC). The mucinous subtype of adenocarcinoma is more common in younger patients and is generally considered a poor prognostic factor. The limited response to therapy has been linked to a relatively hypoxic tumor environment caused by decreased blood supply, which may diminish the effectiveness of chemotherapy. The mucous layer and abundant mucin may also hinder the delivery of chemotherapy agents and reduce the penetration of radiation. Biological factors such as mutations in KRAS and BRAF, overexpression of the MUC2 gene, and increased MSI or DNA MMR deficiency have been observed in mucinous cancers, playing an important role in determining treatment options.

ABSTRAK

Keywords:

colorectal cancer;
rectal mucinous
adenocarcinoma;
cancer in young adults;
biomolecular marker

Kanker kolorektal merupakan kanker keempat terbanyak dan penyebab kematian akibat kanker kelima di Indonesia. Beberapa penelitian telah menyoroti peningkatan insiden kanker kolorektal pada pasien muda. Sebagian besar laporan menunjukkan bahwa pasien muda dengan kanker kolorektal dikaitkan dengan karakteristik klinikopatologis spesifik, termasuk stadium tumor yang lebih lanjut, gambaran histologis yang buruk, tumor yang lebih musinosa, kejadian rekurensi yang tinggi, dan respons yang buruk terhadap terapi standar. Seorang wanita berusia 29 tahun datang dengan benjolan

di daerah anus, hematokezia, dan penurunan berat badan selama 2 bulan. Pemeriksaan histopatologi setelah laparotomi dan reseksi tumor menunjukkan adenokarsinoma musinosa rektum berdiferensiasi sedang, stadium pT3N1cM0 (IIIB). Pasien telah menerima delapan siklus kemoterapi lini pertama dengan monoterapi Capecitabine, kemudian delapan siklus kemoterapi lini kedua dengan regimen FOLFOX, diikuti oleh kemoradioterapi (CCRT) dengan Capecitabine, dan delapan siklus kemoterapi lini ketiga dengan regimen XELIRI karena residu massa rektosigmoid. Evaluasi pasca terapi menunjukkan pasien tidak bergejala, dan MSCT scan abdomen tidak menunjukkan residu massa rektosigmoid, dan disimpulkan sebagai *clinical complete response*. Namun, sepuluh bulan kemudian, pasien kembali mengalami gejala hematochezia berulang dan benjolan di daerah anus. Biopsi lesi menunjukkan adenokarsinoma musinosa anorektum dengan stadium klinis rT4bN1aM0 (IIIC). Subtipe histologis adenokarsinoma musinosa lebih sering terlihat pada pasien muda dan umumnya dianggap sebagai faktor prognostik yang buruk. Respons terbatas terhadap terapi telah dikaitkan dengan lingkungan tumor yang relatif hipoksia yang disebabkan oleh penurunan suplai darah, yang dapat mengurangi efektivitas kemoterapi. Lapisan mukosa dan musin yang melimpah dapat menghambat penghantaran agen kemoterapi dan juga menghambat penetrasi radiasi. Faktor biologis seperti mutasi pada KRAS dan BRAF, ekspresi gen MUC2 yang berlebihan, dan peningkatan MSI atau defisiensi DNA MMR umum ditemukan pada kanker musinosa, yang berperan penting dalam menentukan pilihan terapi.