

Black ascites

Yasuyoshi Sato, Naomi Hayashi and Shunji Takahashi

*Department of Medical Oncology, Cancer Institute Hospital of Japanese Foundation for Cancer Research,
Tokyo, Japan*

Keywords: ascites, black, cancer, unknown primary

This is an Open Access article distributed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view the details of this license, please visit (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

A 71-year-old man with abdominal distension for 2 months as a result of ascites from a cytologically diagnosed adenocarcinoma was admitted to our hospital for further evaluation. His ascites was drained by puncture to enable preparation of ascites cell blocks and perform cell-free concentrated ascites reinfusion therapy (CART)¹ This yielded 8.4 L of black ascites (Fig. 1) containing 1.6 g/dL hemoglobin (left tube, Fig. 2). This was reduced to 0.01 g/dL after filtering to remove cellular components and then concentrated (right tube, Fig. 2). Reinfusion was abandoned because of the possible risk of bacterial peritonitis; however, culture for bacteria in the ascitic fluid was negative. The blackness of the ascites was considered attributable to denatured hemoglobin, thus indicating bleeding from cancerous peritonitis. The ascites was drained by puncture again 11 days later, yielding 5.0 L of pale yellow ascites containing 0.03 g/dL hemoglobin, after which CART was performed without complications. The final diagnosis was cancer from an unknown primary. He died in a palliative care hospital. No autopsy was performed.

Black ascites is rare.² The differential diagnosis of black ascites includes melanoma, ovarian cancer, bowel perforation with leakage of fecal matter, fungal peritonitis, pancreatic ascites, and leakage of tattoo ink.³⁻⁵ To the best of our knowledge, this is the first report of black ascites caused by denatured hemoglobin from bleeding as a result of cancerous peritonitis. When black ascites is detected, such bleeding should be included in the differential diagnosis.

Received: October 12, 2021; accepted: November 24, 2021

Corresponding Author: Yasuyoshi Sato, MD, PhD

Department of Medical Oncology, Cancer Institute Hospital of Japanese Foundation for Cancer Research,
3-8-31 Ariake, Koto-ku, Tokyo 135-8550, Japan

TEL: +81-3-3520-0111, Fax: +81-3-3520-0141, E-mail: yasuyoshi.sato@jfc.or.jp

Black ascites

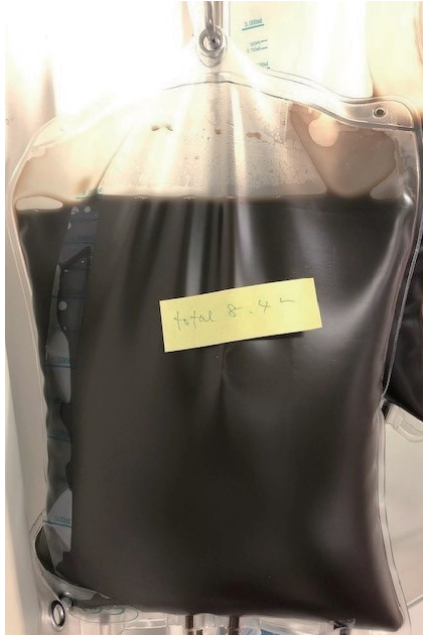


Fig. 1 Drainage of ascites by puncture yielded about 8.4 L of black ascites



Fig. 2 The black ascites contained 1.6 g/dL hemoglobin (left tube) before concentration. This reduced to 0.01 g/dL after filtering to remove cellular components and then concentrating it (right tube).

ACKNOWLEDGEMENTS

We thank Dr Trish Reynolds, MBBS, FRACP, from Edanz (<https://jp.edanz.com/ac>) for editing a draft of this manuscript.

CONFLICTS OF INTEREST

YS reports personal fees from ONO Pharmaceutical Co., Ltd, Bristol-Myers Squibb Company, MSD KK, TAIHO Pharmaceutical Co., Ltd, and Eisai outside the submitted work. NH report no competing interests to disclose. ST reports grants and personal fees from Bristol-Myers Squibb KK, grants and personal fees from ONO Pharmaceutical Co., Ltd, grants and personal fees from MSD, grants and personal fees from AstraZeneca, grants and personal fees from Chugai, and grants and personal fees from BAYER, outside the submitted work.

REFERENCES

- 1 Ito T, Hanafusa N. CART: Cell-free and Concentrated Ascites Reinfusion Therapy against malignancy-related ascites. *Transfus Apher Sci.* 2017;56(5):703–707. doi:10.1016/j.transci.2017.08.018.
- 2 Tarn AC, Lapworth R. Biochemical analysis of ascitic (peritoneal) fluid: What should we measure? *Ann Clin Biochem.* 2010;47(Pt 5):397–407. doi:10.1258/acb.2010.010048.
- 3 Ascha MS, Ascha M, Hanouneh IA. Black Ascites: An interesting presentation of pancreatic duct leak. *Case Rep Intern Med.* 2016;3(4):18–21. doi:10.5430/crim.v3n4p18.
- 4 Alanís Naranjo JM, de Lourdes Alanís Naranjo M. Black ascitic fluid in a patient with history of alcohol abuse: report of an unusual case and literature review. *Oxf Med Case Reports.* 2020;2020(4):omaa023. doi:10.1093/omcr/omaa023.
- 5 Kojima M, Namikawa K, Kase Y, Matsushita H. Black ascites. *QJM.* 2021;114(7):523–524. doi:10.1093/qjmed/hcab057.