

Multiple Hepatocellular Adenomas in Adult Female Childhood Cancer Survivor - A Clinical Association to Remember

Shafi S¹, Cloyd JM², Yearsley M¹, Wellner M³ and Chen W^{1*}

¹Department of Pathology, The Ohio State University Wexner Medical Center, Columbus, OH, USA

²Department of Surgical Oncology, The Ohio State University Wexner Medical Center, Columbus, OH, USA

³Department of Gastroenterology, The Ohio State University Wexner Medical Center, Columbus, OH, USA

*Corresponding author:

Wei Chen, MD, PhD,
Clinical Associate Professor, Director, Hepato
Pancrea to Biliary Pathology, Department of
Pathology, The Ohio State University Wexner
Medical Center, Columbus, OH, 43210, USA,
E-mail: Wei.Chen2@osumc.edu

Received: 01 Jan 2023

Accepted: 13 Feb 2023

Published: 20 Feb 2023

J Short Name: AJSCCR

Copyright:

©2023 Chen W, This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and build upon your work non-commercially.

Citation:

Chen W. Multiple Hepatocellular Adenomas in Adult Female Childhood Cancer Survivor - A Clinical Association to Remember. *Ame J Surg Clin Case Rep.* 2023; 6(7): 1-2

Keywords:

Hepatocellular adenoma; Childhood cancer therapy

1. Abstract

1.1. Background: Childhood cancer survivors are at risk for a small number of hepatic late effects, notably hepatic hemochromatosis. However, only 12 cases of hepatocellular adenomas have been reported thus far in adult survivors of childhood cancers.

1.2. Case Summary: A 34-year-old-female presented with multiple liver masses on imaging noted during workup for a cardiac valve regurgitation. Past history revealed childhood acute myeloid leukemia, total body radiation and bone marrow transplantation. She took oral contraceptive pills for 10 years or more. Biopsy of a large right liver mass revealed a well-differentiated hepatocellular lesion, favoring hepatocellular adenoma.

1.3. Conclusion: Here we present a rare case of multiple hepatocellular adenomas in a patient with a prior history of childhood leukemia post treatment. To the best of our knowledge, this is only the thirteenth case of therapy-related hepatocellular adenoma reported in the literature and highlights the need for further studies to determine their future risk for malignant transformation. Prolonged hormone replacement therapy in hypogonadal patients post childhood cancer therapy can lead to the predilection for development of hepatocellular adenomas and hence this clinical association must always be kept in mind.

2. Introduction

Childhood cancer survivors are at increased risk for certain acquired conditions after treatment. Therapy-associated hepatic

hemochromatosis and colonic polyposis are well known in this setting; however, hepatocellular adenomas are not well documented and less recognized.

3. Case Presentation

A 33-year-old-female was incidentally found to have multiple liver masses during workup for mitral valve regurgitation. She had a history of acute myeloid leukemia diagnosed at age 6 months with recurrence at 2.5 years, treated with total body radiation and 2 bone marrow transplantations. CEA was elevated (12ng/mL) while CA-125, CA 15-3N and CA-19-9 were normal. She had type 2 diabetes mellitus with body mass index of 21.93 kg/m² and was on prolonged hormone replacement therapy.

4. Final Diagnosis

Biopsy of the right liver mass revealed a well-differentiated hepatocellular lesion, consistent with hepatocellular adenoma. She underwent right hepatectomy and pathology found 3 hepatocellular adenomas ranging in size from 2.3 to 8.5 cm. On immunohistochemistry, the tumors were focally positive for glutamine synthetase, serum amyloid A, C-reactive protein; while negative for glypican-3. Liver fatty acid binding protein was intact. A beta-catenin stain was negative for nuclear staining. Reticulin stains showed patchy mild disruption of reticulin fibers only (Figure 1). The overall findings were consistent with multiple hepatocellular adenomas, NOS. The background liver showed moderate steatosis with steatohepatitis and no advanced fibrosis.

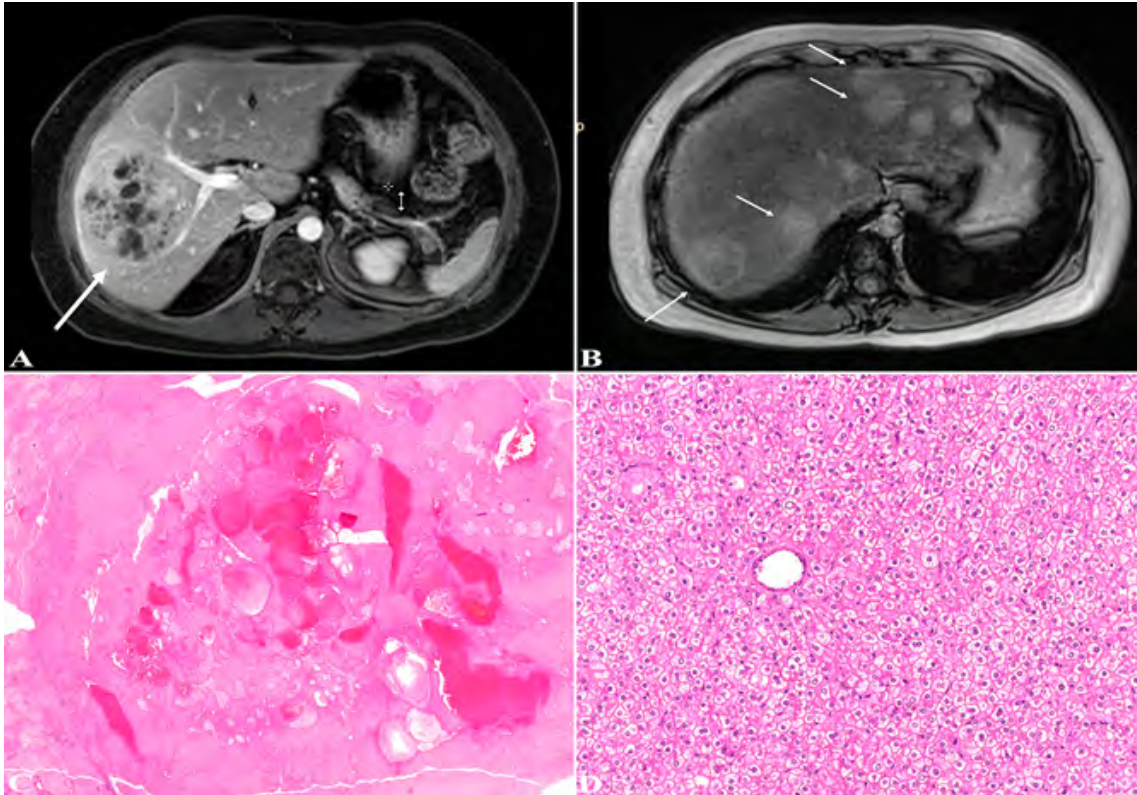


Figure 1: (A and B) Representative contrast-enhanced magnetic resonance imaging scans: (A) dominant mixed cystic-solid mass in the right liver (large arrow) on arterial phase; (B) multiple bi-lobar enhancing lesions on fat-suppressed images. (C and D) Hematoxylin & Eosin-stained histologic sections from right hepatectomy specimen: (C) low power (5x) showing representative hemorrhagic solid mass; (D) intermediate power (200x) showing well-differentiated hepatocellular neoplasm with isolated artery, consistent with hepatocellular adenoma.

5. Treatment

The patient was treated with right hepatectomy with resection of three hepatocellular adenomas.

6. Outcome and Follow Up

The patient is currently doing well five years post-surgery.

7. Discussion

Therapy-associated polyposis appears to be an acquired condition that imitates various familial colorectal cancer syndromes but is biologically distinct from them. Childhood cancer survivors are at risk for a small number of hepatic late effects, notably hepatic hemochromatosis as well as develop numerous colorectal polyps, despite not having a hereditary susceptibility to the condition [1]. However, only 12 cases of hepatocellular adenomas have been reported thus far in adult survivors of childhood cancers [2].

Our patient had been taking oral contraceptive pills for 10 years prior to diagnosis but had no known cancer predisposition syndrome. This case highlights the predilection for development of HAs after prolonged hormone replacement therapy in these hypogonadal patients post childhood cancer therapy.

8. Conclusion

We report this case to increase the awareness of multiple hepatocellular adenomas in the setting of childhood cancer survivors and suggest that screening for liver lesions among young hypogonadal cancer survivors should be considered.

References

1. Ruccione KS, Wood JC, Sposto R, Malvar J, Chen C, Freyer DR. Characterization of transfusion-derived iron deposition in childhood cancer survivors. *Cancer Epidemiol Biomarkers Prev.* 2014; 23(9): 1913-9.
2. Tonorezos ES, Barnea D, Abou-Alfa GK, Bromberg J, D'Angelica M, Sklar CA, et al. Hepatocellular adenoma among adult survivors of childhood and young adult cancer. *Pediatr Blood Cancer.* 2017; 64(4): 10.1002/pbc.26294.