Primary hepatic tumors in women on oral contraceptives

V. Maciel
H. Allen
C. Grodsinsky

Follow this and additional works at: https://scholarlycommons.henryford.com/hfhmedjournal

Part of the Life Sciences Commons, Medical Specialties Commons, and the Public Health Commons

Recommended Citation
Available at: https://scholarlycommons.henryford.com/hfhmedjournal/vol25/iss4/7

This Article is brought to you for free and open access by Henry Ford Health System Scholarly Commons. It has been accepted for inclusion in Henry Ford Hospital Medical Journal by an authorized editor of Henry Ford Health System Scholarly Commons.
Primary hepatic tumors in women on oral contraceptives

V. Maciel, MD,* H. Allen, MD,* and C. Grodsinsky, MD*

Liver cell adenoma and focal nodular hyperplasia have been recognized as rare benign tumors. Their relationship with the use of oral contraceptives has been suggested since 1973. At Henry Ford Hospital, we have had four patients, ages 19, 23, 25, and 30, on oral contraceptives who presented with different clinical pictures suggesting acute abdomen. A hepatic tumor was suspected preoperatively in one patient, was found at laparotomy for biliary tract disease in two other cases, while the fourth patient presented with acute intra-abdominal hemorrhage. Hepatic resection was performed successfully in all with no mortality. The clinical presentation and diagnostic and surgical management will be discussed.

Introduction

Liver cell adenoma and focal nodular hyperplasia have been considered rare benign tumors of the liver. Warvi, in a review of the world literature through 1944, found only 67 cases, and many of these occurred in cirrhotic livers. A review by Henson at the Mayo Clinic from 1907 to 1954 revealed four cases, and a similar review by Edmondson of 50,000 consecutive autopsies at Los Angeles County General Hospital from 1918 to 1954 demonstrated two cases.

Recently, these tumors have been reported with increasing frequency, especially in women of the childbearing years. In 1973, Baum suggested the possible relationship of these tumors to oral contraceptives. In the past seven years, 128 benign hepatic tumors have been reported in women using this form of contraception. If a relationship exists between such tumors and the use of oral contraceptives, their frequency is low, since, as Machol reported in 1976, 10 million women were using some type of oral contraceptive in this country.

The purpose of this study is to report our experience with these benign hepatic tumors. During the last five years we have treated four patients who represented a spectrum of clinical presentation.
Case Reports

Case 1

A 19-year-old woman with no history of pregnancy had been taking oral contraceptives for two years. She presented with persistent epigastric pain of sudden onset. Her physical examination was negative except for slight tenderness in the epigastrium. Laboratory workup revealed leukocytosis and mild elevation of serum enzymes and bilirubin. The initial impression was possible cholecystitis. Her symptoms rapidly subsided, and the laboratory results returned to normal within three days. The upper gastrointestinal x-ray was normal. A liver scan demonstrated a defect in the left lobe of the liver which presented as a solid mass in the echogram. Further diagnostic investigation by selective angiography showed a tumor in the same location. At surgery a solid tumor was found in the lateral segment of the left lobe of the liver. Resection of this portion of the liver was performed. The pathology report showed the lesion to be a hepatic cell adenoma with focal necrosis. The patient's postoperative course was uneventful, and she was discharged two weeks postoperatively.

Case 2

A 23-year-old woman, gravida 2, para 2, who delivered by c-section, had been on oral contraceptives for seven years. She had a known sickle cell trait and had been seen in the Emergency Room on several occasions for right upper quadrant and epigastric pain. Diagnostic studies showed a nonfunctioning gall bladder. The patient was admitted for elective cholecystectomy with a diagnosis, which was confirmed at surgery of chronic cholecystitis and cholelithiasis. In addition, a well-circumscribed nodule measuring 2 cms in diameter was found in the right anterior segment of the liver. Segmental resection was performed after a frozen section showed it to be benign. The final pathologic diagnosis was focal nodular hyperplasia. The patient's postoperative course was uneventful.

Case 3

A 25-year-old woman, gravida 1, para 1, had been taking oral contraceptives for four years. She presented to the Emergency Room with pain in the right lower quadrant. The physical examination revealed abdominal guarding and questionable rebound. Bowel sounds were actively present. Her temperature was 37 C, and the blood pressure was 110/70. Laboratory determination showed hemoglobin of 12.2 gms % and a WBC count of 11,600. During the next 24 hours the pain became localized in the right upper quadrant, and the temperature rose to 38 C. An intravenous cholangiogram did not show the gall bladder. With a diagnosis of acute cholecystitis, laparotomy was carried out. At surgery the gall bladder was found to be normal. A 10 cm lobulated, firm subcapsular and bulging tumor involved the anterior segment of the right lobe of the liver. Frozen section examination indicated a benign tumor. A partial right hepatic resection was performed. The pathological diagnosis was focal nodular hyperplasia. The postoperative course was uneventful, and the patient was discharged two weeks postoperatively.

Case 4

A 30-year-old woman had been taking oral contraceptives for six years. She came to the Emergency Room because of sudden, sharp lower abdominal pain, especially in the right lower quadrant, dizziness, and marked weakness. On examination she had pain in the lower abdomen with guarding and rebound. A culdocentesis showed nonclotting blood. Surgery was performed with a preoperative diagnosis of ruptured intratubal pregnancy. A small amount of blood was found in the pelvis, but the source of the bleeding was not found. Postoperatively the patient improved. Complete gastrointestinal x-ray studies showed no abnormality. She was to be discharged on the 14th postoperative day when she developed severe upper abdominal pain and profound vascular collapse. After initial resuscitation she was taken to the Operating Room where she was found to be bleeding profusely from an area in the dome of the right lobe of the liver. In order to control the bleeding a right hepatic lobectomy was performed. The diagnosis was consistent with ruptured hepatic cell adenoma. After a stormy postoperative course complicated by sepsis, pneumonia, empyema, biliary fistula, and right subphrenic abscess, the patient fully recovered and was discharged five months after her admission.

Discussion

As has been stated, these lesions are now being seen more often. However, they have also been reported in men as well as in children and postmenopausal women. Although the clinical presentation may be varied, as shown by our four cases, the tumor is indicated in one of three ways. First, as demonstrated by Case 2, the tumor, if intact, may be asymptomatic, and is found incidentally at surgery performed for other condi-
Primary hepatic tumors

tions. Second, as demonstrated by the first and third cases, the patient presents with symptoms of secondary intratumoral hemorrhage. In this situation, the liver capsule remains intact, and further evaluation is required to delineate the cause of the pain. The third clinical presentation is represented by our fourth case. This patient presented with sudden severe abdominal pain and shock secondary to intra-abdominal hemorrhage from the ruptured tumor. None of these patients, however, could recall earlier symptoms associated with the hepatic tumor; most of the reported ruptured tumors have been large enough to be detectable at surgery.

The triad of right upper quadrant pain with shock and hemoperitoneum in the woman taking oral contraceptives suggests ruptured hepatic cell adenoma or focal nodular hyperplasia. Other female patients with symptoms suggesting gall bladder disease but in whom x-ray studies are negative should be investigated further to exclude this possibility.

Diagnostic aids in those patients include echography, isotope scanning (Figure 1), and arteriography (Figure 2).

Pathology

In the past, some authors have used the terms hepatic adenoma and focal nodular hyperplasia interchangably, Phillips' and his associates sought to clarify the distinction between these lesions. The adenoma is characteristically encapsulated, is composed of histologically benign hepatocytes, and contains no bile ducts (Figure 3). Focal nodular hyperplasia is well demarcated, but not encapsulated, and shows a central fibrous area with radiating fibrous septa subdividing the tumor into multiple nodules. Histologically, it displays hepatocytes and bile ducts (Figure 4).
Summary and Conclusion

We have presented four cases of benign hepatic tumors associated with the use of oral contraceptives in young women. Their clinical presentation was varied, and in those cases not needing emergency surgical attention, echography, scanning or angiography may be helpful in establishing the diagnosis. Although there appears to be limited threat of malignancy, the greatest risk is tumor rupture and hemorrhage into the peritoneal cavity. Experience has shown that appropriate treatment includes surgical excision and avoidance of further use of oral contraceptives.
Primary hepatic tumors

Figure 3
H.E. X390 displaying a typical field as seen in liver cell adenoma (Case 1)

Figure 4
H.E. X6, focal nodular hyperplasia (Case 2). Note central fibrous area and lack of true capsule.
References

1. Warvi WM: Primary Neoplasms of the liver. Arch Pathol 37:367-82, 1944


