Clinical picture

A rare complication after transarterial chemoembolization for hepatocellular carcinoma

An 80-year-old woman was diagnosed with hepatocellular carcinoma and underwent transarterial chemoembolization (TACE). The procedure went smoothly without any complications. However, she presented with a dry cough 3 months after the intervention. On physical examination, she did not appear cyanotic. Chest auscultation revealed a minimal crackle sound in the perihilar lung fields; other respiratory system examination findings were non-specific. Pulse oximetry revealed an oxygen saturation level of 98% without oxygen supplementation. Additionally, chest radiography revealed branching tubular opacities in the bilateral pulmonary perihilar regions. Moreover, chest computed tomography without contrast enhancement confirmed the retention of radiopaque lipiodol in the bilateral pulmonary arterial branches (Figure 1, arrows). Her cough was relieved after 2-week administration of antitussive agents. She recovered without any respiratory sequelae.

Pulmonary lipiodol embolism is a potentially fatal complication of TACE. It is attributed to pulmonary arterial occlusion by iodized oil, which is injected into the hepatic artery and bypassed into the lungs through the normal hepatic vasculature or via an arteriovenous shunt. Although one-fourth of patients shows abnormalities on pulmonary perfusion scans after TACE, the incidence of symptomatic respiratory complications ranges between 0.05% and 1.8%, confirming the speculation that most pulmonary complications of TACE improve or resolve spontaneously. In symptomatic cases, respiratory distress usually occurs during or within a few post-operative days, and the typical radiographic findings are diffuse bilateral air space consolidations, and computed tomography images show radiopaque lipiodol deposits in the dependent portions of both lungs. The management for symptomatic pulmonary lipiodol embolism includes oxygenation, high-dose methylprednisolone, heparin, or positive end-expiratory pressure.

Delayed clinical symptoms and tubular lipiodol retention at perihilar regions represented unique findings in this patient. In patients with a history of liver TACE, the respiratory complication of pulmonary lipiodol embolism with or without symptoms should be considered as a possible secondary event.

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References
