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#### Authors

Hokama, Akira  
Arakaki, Shingo  
Shibata, Daisuke  
et al.

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## “Playboy Bunny” Sign of Congestive Heart Failure

Akira Hokama, MD\*  
 Shingo Arakaki, MD\*  
 Daisuke Shibata, MD\*  
 Tatsuji Maeshiro, MD\*  
 Fukunori Kinjo, MD†  
 Jiro Fujita, MD\*

\* University of the Ryukyus, Department of Infectious, Respiratory, and Digestive Medicine, Nishihara, Okinawa, Japan

† University of the Ryukyus, Department of Endoscopy, Nishihara, Okinawa, Japan

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In emergency, ultrasound has been widely used as a noninvasive and effective examination to evaluate congestive heart failure. We highlight “Playboy Bunny” sign as a reliable marker and an important clue to the diagnosis of passive hepatic congestion, caused by congestive heart failure. [West J Emerg Med. 2011;12(4):433–434.]

In emergency, ultrasonography has been widely used as a noninvasive and effective examination to evaluate congestive heart failure. The typical ultrasonographic findings in congestive heart failure include hepatomegaly and dilated inferior vena cava. We herein present another impressive sign.

Figure 1 was from a 32-year-old man with congestive heart failure, which was caused by tricuspid regurgitation, mitral valve prolapse, and pericardial effusion. The dilatation of the inferior vena cava and the hepatic veins resembles the “Playboy Bunny” sign. Figure 2 was from a 62-year-old

woman with tricuspid regurgitation and pulmonary hypertension who presented with congestive heart failure. The dilated hepatic veins again look like the “Playboy Bunny” sign. Elevated central venous pressure is directly transmitted from the right atrium to the hepatic veins owing to a close anatomic relationship.<sup>1</sup> Impaired hepatic venous drainage occurs secondary to cardiac disease, including congestive



**Figure 1.** Ultrasonography of the liver showing “Playboy Bunny” sign in a 32-year-old man with congestive heart failure.



**Figure 2.** Ultrasonography of the liver showing “Playboy Bunny” sign in a 62-year-old woman with congestive heart failure.

heart failure, constrictive pericarditis, pericardial effusion, cardiomyopathy, or right-sided valvular disease involving the tricuspid or pulmonary valve. Subsequent dilatation of the inferior vena cava and the hepatic veins then produces the “Playboy Bunny” sign, a good hallmark in passive hepatic congestion.

Although Bartrum and Crow<sup>2</sup> first described “Playboy Bunny” appearance, with the head being the inferior cava and the ears the hepatic veins, in a normal subject, “Playboy Bunny” sign has been used as an impressive hallmark in passive hepatic congestion. More dilated hepatic veins often present a “deer-horn” appearance.<sup>3</sup> In conclusion, we highlight “Playboy Bunny” sign as a reliable marker and an important clue to the diagnosis of passive hepatic congestion, caused by congestive heart failure, in emergency ultrasonography. Although final diagnosis of the type of heart failure is based on clinical and laboratory data, specific ultrasonographic features help narrow the differential diagnosis.

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*Address for Correspondence:* Akira Hokama, MD, University of the Ryukyus, Department of Infectious, Respiratory, and Digestive Medicine, 207 Uehara, Nishihara, Okinawa 903-0215, Japan.  
E-mail: hokama-a@med.u-ryukyu.ac.jp.

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#### REFERENCES

1. Gore RM, Mathieu DG, White EM, et al. Passive hepatic congestion: cross-sectional imaging features. *AJR Am J Roentgenol.* 1994;162:71–75.
2. Bartrum RJ Jr, Crow HC. Basic ultrasound anatomy. In: RJ Bartrum Jr, Crow HC, eds. *Real-Time Ultrasound.* 2nd ed. Philadelphia, PA: WB Saunders; 1983:74–82.
3. Akdemir R, Yildiz A, Bulur S, et al. Deer horn image in the liver associated with giant right atrium. *Am J Geriatr Cardiol.* 2007;16:200–201.