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PICTURE OF THE MONTH

Twenty-week Brain Vascularity by Transvaginal 3D HDlive Flow

[1-5]Ritsuko K Pooh

ABSTRACT

Recent advances of three-dimensional (3D) Doppler application is HDlive flow providing a realistic rendering of fine peripheral blood vessels, such as vascularity of the lung, brain, and eyeballs. The picture of the month demonstrates an oblique–sagittal view of the brain vascularity. Flow imaging can add both angiostructural and functional information to structural findings of normal and abnormal central nervous system.

Keywords: Brain, Circulation, Fetus, HDlive flow, 3D Ultrasound.

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INTRODUCTION

HDlive flow[1-5] is a recent three-dimensional (3D) Doppler application and this technology generates a 3D view of the blood flow and providing a realistic rendering of fine peripheral blood vessels, such as vascularity of the lung, brain, and eyeballs. In the fetal period, cerebral vasogenesis occurs with cerebral development. Brain circulation was visualized by two-dimensional (2D) ultrasound[6,7] in 1993–1994 and the author succeeded in visualizing early brain circulation by 3D ultrasound.[8] HDlive flow depicts furthermore realistic 3D angiostructure by transvaginal 3D HDlive flow, shown in Figure 1. Oblique–sagittal view of the brain vascularity is demonstrated and internal carotid artery, anterior cerebral artery, pericallosal artery and branches, superior sagittal sinus, lenticulostriate arteries are well demonstrated. Thus, by using HDlive flow, each brain vessel is clearly depicted. Flow imaging can add both angiostructural and functional information to structural findings of normal and abnormal central nervous system.

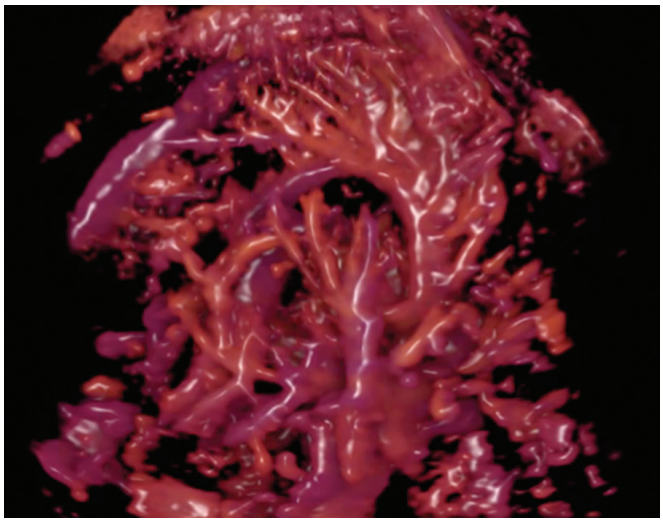

Fig. 1: Oblique–sagittal view of brain vascularity at 20 weeks of gestation by transvaginal 3D HDlive flow Internal carotid artery, anterior cerebral artery, pericallosal artery and branches, superior sagittal sinus, lenticulostriate arteries are well demonstrated

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