



LETTER TO EDITOR

“Hands and feet” figural teaching method in portal vein traffic branch: A surgeon’s teaching experience



Dear Editor,

We have recently read the article “Histologic severity of liver cirrhosis: A key factor affecting surgical outcomes of hepatocellular carcinoma in patients with portal hypertension” published in your journal by Ke-shuai Dong et al. From Wuhan, China. Authors aimed to explore the role of a potential player, histologic severity of liver cirrhosis, in affecting surgical outcomes of the patients with both hepatocellular carcinoma (HCC) and portal hypertension (PH). The report makes a conclusion that histologic severity of liver cirrhosis determines the surgical outcomes of patients with both HCC and PH, and PH is not an absolute contra-indication of liver resection.¹

Here we would like to describe our clinical and teaching experience on knowledge of portal vein traffic branch. The four major traffic branches are intricate in the three-dimensional space structure, which is confusing and difficult to learn by rote. Using the figural teaching method, the portal vein traffic branch is skillfully memorized through the change of the hands and feet posture, helping young doctors to quickly grasp the location and vein composition of the four major traffic branches.

According to the anatomical position of the four major traffic branches, it is summarized as the four traffic branches of “top, bottom, front and back”, and the digestive tract is compared to the channel. Then the “top” is the gastric fundus, lower esophageal branch of traffic, and the “bottom” is the rectal lower end, anal canal traffic branch, the “front” is the anterior abdominal wall traffic branch, and the “back” is the retroperitoneal traffic branch. Establish a three-dimensional image of the general “four major traffic branches” in the mind (Fig. 1A). Extend the thumb and the little finger, the two

thumbs up and the two little fingers down, which is equivalent to the patient standing position (Fig. 1B). The left hand hollow is compared to the vena cava, the left thumb and the little finger are connected to the branch of the vena cava; the right hand hollow is like the portal vein, the right thumb and the little finger are connected to the branch of the portal vein, and the thumb and the little finger are connected by the “foot”. Taking the homophonic sound is the “Jiao Tong Zhi.” At this time, the “top traffic branch” is the gastric fundus, lower esophageal branch of traffic, connected between the azygous vein (left thumb) and the gastric coronary vein (right thumb). The “bottom traffic branch” is the rectal lower end, anal canal traffic branch, connected between the upper and lower rectal veins (left and right little finger) (Fig. 1C). The thumb and the little finger stick out, the two thumbs are pointing backwards and the two little fingers are pointing forward, which is equivalent to the patient standing position (Fig. 1D). The hollow of the left hand is compared to the vena cava, and the left thumb and the little finger are connected to the branch of the vena cava. The right hand hollow is like a portal vein, the right thumb and the little finger are connected to the branch of the portal vein. At this time, the “front traffic branch” is the traffic branch of the anterior abdominal wall, which is connected between the upper abdomen, the deep vein (left thumb) and the paraumbilical vein (right thumb). The “back traffic branch” is the retroperitoneal traffic branch (Fig. 1E).

This teaching method through the change of the hands and feet posture, aims to building of a profound three-dimensional structure, greatly improving learning efficiency.

<https://doi.org/10.1016/j.asjsur.2019.03.016>

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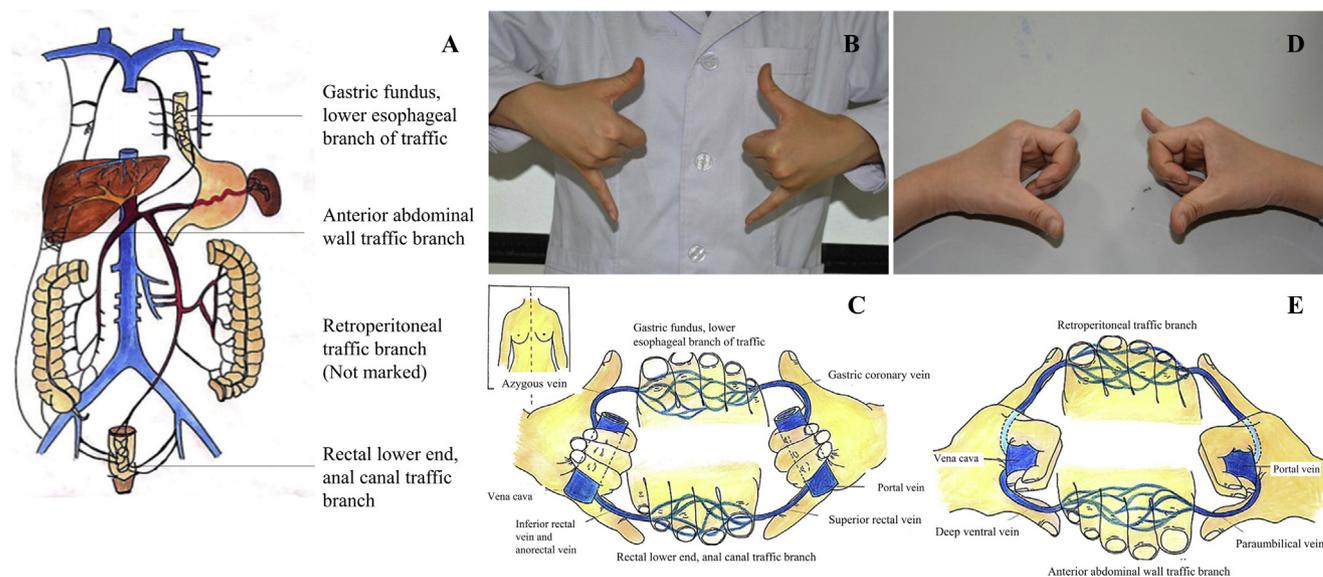


Figure 1 “Hands and feet” figural teaching method in portal vein traffic branch.

Funding

The Grassland Talents Program of Inner Mongolia Autonomous Region (years 2013 and 2015). The Grass Talents Innovative Group Programs of Inner Mongolia Autonomous Region. The Project of Education Teaching Reform of Inner Mongolia Medical University in 2018 (NYJXGG2018011). The New Talent Project of Inner Mongolia Medical University (NYJTX201812). Major scientific research project of affiliated hospital of Inner Mongolia Medical University (NYFY ZD 003). The Natural science foundation of Inner Mongolia (2017MS08354). The Science and Technology Plan Project of Inner Mongolia (Year 2017). Inner Mongolia medical university laparoscopic surgery skills teaching team project (NYJXTD201901). Graduate education reform research and practice project of education department of Inner Mongolia autonomous region (YJG20181013202).

Conflicts of interest

All the authors have no potential conflicts of interest to disclose.

Acknowledgements

We would like to acknowledge with gratitude the contribution of the colleagues of the department of Hepatobiliary, Pancreatic and Splenic Surgery, The Affiliated Hospital of Inner Mongolia Medical University.

Reference

1. Dong KS, Liang BY, Zhang ZY, et al. Histologic severity of liver cirrhosis: a key factor affecting surgical outcomes of hepatocellular carcinoma in patients with portal hypertension. *Asian J Surg.* 2019. <https://doi.org/10.1016/j.asjsur.2019.01.009> [Epub ahead of print].

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4 March 2019