

## Case Report

# A CASE REPORT ON ABNORMAL DRAINAGE OF ACCESSORY HEMIAZYGOUS VEIN

Krupa Daniel <sup>\*1</sup>, Christal Abisha <sup>2</sup>, Daphne Ann Jacob <sup>2</sup>.

<sup>\*1</sup> Associate Professor of Anatomy, Southern Medical University, Guangzhou P.R, China

<sup>2</sup> MBBS 3<sup>rd</sup> Year, Southern Medical University, Guangzhou P.R, China

## ABSTRACT

**Background:** The Posterior intercostal veins on the left side, below the upper three intercostal spaces, usually form two trunks named as hemiazygous and accessory hemiazygous veins. The Hemiazygous Vein begins in the left ascending lumbar or renal vein. It enters the thorax, through the left crus of the diaphragm, and, ascending on the left side of the vertebral column, as high as the ninth thoracic vertebra, passes across the column, behind the aorta, esophagus, and thoracic duct, to end in the azygos vein. It receives the lower four or five intercostal veins and the subcostal vein of the left side, and some esophageal and mediastinal veins. The Accessory Hemiazygous Vein descends on the left side of the vertebral column. It receives veins from the three or four intercostal spaces between the highest left intercostal vein and highest tributary of the hemiazygous; the left bronchial vein sometimes opens into it. It either crosses the body of the eighth thoracic vertebra to join the azygos vein or ends in the hemiazygous.

**Case Report:** Presented case found during routine dissection at Southern Medical University, Guangzhou P.R, China.

**Discussion:** The accessory hemiazygous vein, also called the superior hemiazygous vein, drains the superior left hemithorax. In a majority of cases there is a small connection to the left superior intercostal vein, and rarely, the accessory hemiazygous vein drains into the brachiocephalic vein. In our routine dissection we found the abnormal drainage of accessory hemiazygous vein and hemiazygous vein which are togetherly forming the Intra azygous vein

**Conclusion:** Knowledge of the aberrant venous anatomy is also important in surgery and catheter placement. The hemiazygous system has also been mistaken for abnormal lymph nodes and knowledge of the azygous system and its variant anatomy is important. The patient with insufficient or wrong imagistic studies can become a victim of a false diagnostic, sometimes alarming, such as a malignant space substituting process. Present study we found the following variations with absence of accessory hemiazygous vein, the upper left posterior intercostal veins joined with hemiazygous vein to form interazygous vein.

**KEY WORDS :** Azygous Vein, Hemiazygous vein, Accessory Hemiazygous, Vein.

**Address for Correspondence:** Dr. D.Krupa Daniel, Associate Professor of Anatomy, Southern Medical University, Guangzhou P.R, China. Phone no.: +86-15626441489

**E-Mail:** [danielkrupa1309@gmail.com](mailto:danielkrupa1309@gmail.com)

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## INTRODUCTION

The azygous vein begins opposite the first or second lumbar vertebra, by a branch, the ascend-

ing lumbar vein sometimes by a branch from the right renal vein, or from the inferior vena cava. It enters the thorax through the aortic hiatus in

the diaphragm, and passes along the right side of the vertebral column to the fourth thoracic vertebra, where it arches forward over the root of the right lung, and ends in the superior vena cava. In the aortic hiatus, it lies with the thoracic duct on the right side of the aorta in the thorax it lies upon the inter-costal arteries on the right side of the aorta and thoracic duct, and is partly covered by pleura. The Posterior intercostal veins on the left side, below the upper three intercostal spaces, usually form two trunks named as hemiazygous and accessory hemiazygous veins. The Hemiazygous Vein begins in the left ascending lumbar or renal vein. It enters the thorax, through the left crus of the diaphragm, and, ascending on the left side of the vertebral column, as high as the ninth thoracic vertebra, passes across the column, behind the aorta, esophagus, and thoracic duct, to end in the azygos vein. It receives the lower four or five intercostal veins and the subcostal vein of the left side, and some esophageal and mediastinal veins.

The Accessory Hemiazygous Vein descends on the left side of the vertebral column. It receives veins from the three or four intercostal spaces between the highest left intercostal vein and highest tributary of the hemiazygous; the left bronchial vein sometimes opens into it. It either crosses the body of the eighth thoracic vertebra to join the azygos vein or ends in the hemiazygous.

### CASE REPORT

Presented case found during routine dissection at Southern Medical University, Guangzhou P.R, China. In the cadaver we observed the anomalous Intra azygous system.



**Fig. 1:**  
Anomalous  
Intra - Azygous  
System.

### DISCUSSION

The azygous system is a paired para-vertebral venous pathway in the posterior wall of the thorax. Azygous vein originates from the junction of the right ascending lumbar and subcostal veins, entering the chest through the aortic hiatus. It ascends along the anterolateral surface of the thoracic vertebrae and arches ventrally to the right main bronchus at T5–T6, draining into the SVC. More rarely the azygous vein drains into the right brachiocephalic vein, right subclavian vein, intrapericardial SVC or right atrium [1].

The Hemiazygous vein drains at the level of 9<sup>th</sup> Thoracic vertebra and Accessory Hemiazygous vein drains at the Level of 8<sup>th</sup> Thoracic vertebra [2]

Anomalies of the azygous venous system are common [3-5]. Very rarely, the communications between the accessory hemiazygous and hemiazygous veins form common channels ventral to the aorta [5].

The hemiazygous and the accessory hemiazygous are variable in their drainage and anatomy. Usually, the accessory hemiazygous and hemiazygous form common channels posterior to the aorta. In rare instances, the hemiazygous and accessory hemiazygous veins form common channels ventral to the aorta called the interazygos veins [6]. A direct connection of the hemiazygous and accessory hemiazygous is thought to be very rare.

The accessory hemiazygous vein, also called the superior hemiazygous vein, drains the superior left hemithorax. In a majority of cases there is a small connection to the left superior intercostal vein, and rarely, the accessory hemiazygous vein drains into the brachiocephalic vein [7]. In our routine dissection we found the abnormal drainage of accessory hemiazygous vein and hemiazygous vein which are togetherly forming the Intra azygous vein.

### CONCLUSION

Knowledge of the aberrant venous anatomy is also important in surgery and catheter placement. The hemiazygous system has also been mistaken for abnormal lymph nodes and knowledge of the azygous system and its variant

anatomy is important. The patient with insufficient or wrong imagistic studies can become a victim of a false diagnostic, sometimes alarming, such as a malignant space substituting process. Present study we found the following variations with absence of accessory hemiazygos vein, the upper left posterior intercostal veins joined with hemiazygos vein to form interazygos vein.

**Conflicts of Interests: None**

## REFERENCES

- [1]. The azygos vein pathway: an overview from anatomical variations to pathological changes - Sara Piciucchi et al - Published 2014 Aug 30. doi: 10.1007/s13244-014-0351-3.
- [2]. Anatomy of the Human Body. 1918 - Gray's Anatomy 38 th Edition, Churchill Livingstone.
- [3]. Pillet J, Mercier P, Chronier P, Moreau P, Lescalie F, Chevalier JM, Enon B, Jaeger JF, Caron Poitreau C, Rieux D. Isolated azygos continuation of the inferior venacava. (Absence of the retrohepatic segment of the inferior vena cava). Bull. Assoc. Anat. 1986;70:69-74.
- [4]. Williams PL, Bannister LH, Berry MM, Collins P, Dyson M, Dussek JE, Ferguson MWJ (eds) (1995) Gray's Anatomy, 38th edn. Churchill Livingstone: New York.
- [5]. Seib GA. The azygos system of veins in American whites and American negroes, including observations on the inferior caval venous system. Am. J. Phys. Anthropol. 1934;19:39-163.
- [6]. Das S, Paul S. Preaortic interazygos vein: A case report. Braz J Morphol Sci 2004;21:141-3.
- [7]. Galwa RM, Prakash M, Khandelwal N. 16-MDCT depiction of the accessory hemiazygos vein draining into the left brachiocephalic vein. Indian J Radiol Imaging 2007;17:50-1.

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