Advances in Cardiac Science Kosmos Publishers

Image Article **Adv in Car Sci: AICS-101**

The Tip of The Iceberg: A Rare Case of Massive Substernal Goiter Discovered Through Transradial Cardiac Angiogram

Massive Goiter Vasculature Seen on Angiogram

Robin Jacob[1], Katia Bravo-Jaimes[2], Christopher Do[1], Konstantinos Charitakis[2]

[1]Department of Medicine, University of Texas Health Science Center at Houston, Texas, USA
[2]Division of Cardiology, University of Texas Health Science Center at Houston, Texas, USA

Corresponding author: Robin Jacob, Department of Medicine, University of Texas Health Science Center, Hermann Museum Circle Drive, Apt 4014 Houston, Texas 77004, USA; Tel:+16782006759; Email: Robin.jacob@uth.tmc.edu

Citation: Jacob R, Jaimes KB, Do C, Charitakis K (2018) The Tip of The Iceberg: A Rare Case of Massive Substernal Goiter Discovered Through Transradial Cardiac Angiogram Massive Goiter Vasculature Seen on Angiogram. Adv in Car Sci: AICS-101.

Received Date: 12 June, 2018; **Accepted Date:** 13 June, 2018; **Published Date:** 21 June, 2018

Abstract:

Goiters may sometimes only be revealed through imaging, such as computed tomography scans. Knowledge of goiters allow for routine monitoring in case condition changes. Here we present an 83-year old male who arrived to the emergency room with dyspnea on admission. Labs and imaging warranted coronary angiography. When angiogram was attempted, contrast injection revealed a highly vascularize structure which was later identified as a massive substernal goiter. In conclusion, angiography may reveal incidental findings that alter or change a patient's prognosis.

1. Presentation

An 83-year-old male with hypertension and chronic kidney disease presented with dyspnea. Vital signs were stable, and physical exam revealed findings of volume overload with lower extremity pitting edema. Of note, thyroid exam was normal with no enlargement, tenderness, or lymphadenopathy.

2. Assessment

Blood work revealed minor troponin elevation. Chest x-ray showed bilateral pleural effusions **(Figure A)**. Transthoracic echocardiogram revealed ejection fraction of 40-45%.Coronary angiography was attempted via right transradial approach due to a concern for non ST elevated myocardial infarction. There was difficulty engaging the JL 4 catheter but after cannulation and contrast injection a highly vascularized structure was noted **(Video A)** anterior to the cardiac silhouette.Transradial approach was aborted and right femoral access was obtained. Cardiac angiogram showed severe stenosis in the mid left circumflex, first obtuse marginal and mid right coronary artery.The procedure was stopped with plan for staged percutaneous coronary intervention (PCI) given the elevated creatinine.

Video A (Refer to video): Cardiac angiogram using JL 4 cathetervia right transradial approach revealing highly vascularized substernal goiter:

VideoLink : http://www.kosmospublishers.com/wp-content/uploads/2018/06/Video-A.-Angiogram-of-Goiter.mp4

Figure A: CXR on admission showing bilateral pleural effusion, widened mediastinum and deviated trachea.

Diagnosis/Management

A chest computerized tomography (CT)was obtained, which showed bilobar enlargement of the thyroid gland with the left lobe extending into the mediastinum **(Figure B &C).**Given normal thyroid function tests, negative Pemberton's test, and minor progression on imaging (we were able to locate a prior CT chest from 6 years ago), Endocrinology consultants recommended observation. Patient later underwent successful PCI to a right coronary artery lesionvia left transradial approach.

Figure B: CT chest Saggital viewdemonstratingenlarged thyroid gland: right lobe measuring 5.5x4.8x3.0cm, whilethe left lobe extendsinferiorly and bifurcates into a prevascularmediastinal and middle mediastinal component.

Figure C: CT chest Coronal view of substernal goiter.

Substernal goiter is a rare condition, defined as 50% of the thyroid being below the thoracic inlet, accounting for 5 to 20% of thyroidectomies[1]. To our knowledge, this is the first time that a massive substernal goiter was diagnosed as an incidental finding during cardiac angiography via right transradial approach. Potential risks of performing coronary angiography in patients with substernal goiter not only include those related tothe usual vascular complications but also provoking iodine-induced thyrotoxicosis **[2]**.

3. Acknowledgement

No grants were used in the production of this manuscript/project.

References

1. Akheel M, Nagarkar R, Roy S, Wadhwania A (2017) Huge Nodular Goitre with Retrosternal Extension- A Rare Case Report. J Otolaryngol ENT Res 7: 00215.
2. Hintze G, Blombach O, Fink H, Burkhardt U, Köbberling J (1999) Risk of iodine-induced thyrotoxicosis after coronary angiography: an investigation in 788 unselected subjects. Eur J Endocrinol 140: 264-267.