Title: Challenges In The Pre and Postnatal Diagnosis Of Mediastinal Cystic Hygroma : A Case Report

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Author's response to reviews: see over
Dear Sir

I would like to resubmit the attached manuscript, "Challenges In the Pre and Postnatal Diagnosis of Mediastinal Cystic Hygroma" for consideration for possible publication in JMCR Series.

We still feel that it is an interesting case in that although mediastinal cystic hygromas are rare but reasonably well documented in the literature, their identification is not always straightforward. We therefore feel that this paper merits publication. We appreciate the response of one of the reviewers (Dr A Donnelfeld) who seems to agree with this view.

We will cover each of the points raised by the two reviewers.

Reviewer: Alan E Donnenfeld

Many thanks for reviewing the submission.

On several occasions in the manuscript (twice in the abstract, the body of the text in the next-to-last paragraph, and in the concluding paragraph) the comment is made that the location of the mass next to the left phrenic nerve may have accounted for the incorrect prenatal diagnosis of a congenital diaphragmatic hernia (CDH), congenital cystic adenomatoid malformation (CCAM) or teratoma and delayed the correct diagnosis. As the phrenic nerve is not identifiable on prenatal ultrasound imaging, I do not understand how compression of the phrenic nerve could be identified. Possibly, phrenic nerve involvement can cause irregular diaphragmatic movement which is identifiable in a newborn but I am not aware of this finding being reported prenatally, especially because diaphragmatic excursion is intermittent and irregular in fetal life. I would therefore omit any reference to how the prenatal diagnosis was inaccurate because of the mass' association with the phrenic nerve unless the authors can explain this comment.

We agree with all of what the reviewer has to say on this issue. However, we feel that it is important to mention how the location of the mass affected the diagnostic process. Whilst the reviewer is entirely correct in stating that the phrenic nerve is not identifiable on prenatal ultrasound and we cannot fault the scanning sonographer, we believe that the location of the mass and its association with the phrenic nerve accounted for the fact that the mass was deemed to be a CDH. We have left some references to this in the text. If the reviewer feels strongly that they should be removed, we will remove them.

I would delete figure 1 (newborn chest X-ray) as it does not display any abnormality. I would add arrows to figure 2, pointing out the abnormalities described in the figure legends.

Done.

I would add an ultrasound image of the fetal chest mass as it was observed prenatally. This would be especially helpful as it could provide an image of a
mediastinal cystic hygroma for others to consider when prenatal chest masses are identified.

Unfortunately, the patient was referred from another hospital to our tertiary unit. Whilst we have located the maternal notes at the referring hospital, unfortunately they do not contain a prenatal ultrasound image of the mass. We have included an image from the immediate postnatal echocardiogram.

The authors should note whether the stomach was visualized below the diaphragm on the prenatal ultrasound exam. Presumably, the diagnosis of a CDH was entertained because the fetal mass in the chest was thought to be a herniated stomach or intestinal loop through the diaphragm. If the stomach is visualized in its correct anatomical location in the abdomen, the mass in the left chest is not likely due to a CDH (unless it is an enlarged loop of bowel, which is unusual).

The stomach was visualised in the correct anatomical position on the prenatal ultrasound. Indeed it was thought that the mass was a loop of small bowel, albeit that it would have been an unusual presentation.

I would add whether color Doppler blood flow was used to evaluate if the fetal chest mass had a vascular component. If blood flow is present, it is useful in narrowing the differential and will help in diagnosing pulmonary sequestration or a vascular tumor such as a hemangioma.

Doppler colour flow was not used. We agree it would have been a useful adjunct to the examination.

I would make a table of all possible causes of fetal and newborn chest masses (differential diagnosis) instead of listing all the possible disorders in the text.

Done.

In the Discussion, third line, a word is missing after "endothelial-lined". The word "mass" should likely be inserted.

Done.

In the discussion, I would add that cystic hygromas are reported to occur between 1/6000 - 1/16,000 live births. They can occur anywhere in the body, but 75% involve the posterior neck, 20% involve the axilla, and 1% involve the mediastinum, groin, and retroperitoneum.

Done.
Reviewer: Geert van der Heijden

The authors are have attempted to address the concerns of the second reviewer. We have had the report proof–read by several other clinicians and they agree that it is does not now require major editing or revision. The discussion has been revised and edited. If the second reviewer still has issues then we would appreciate more specific feedback on how the English and writing could be improved.

We hope that we have adequately tackled the points raised by the reviewers. We also hope that should the reviewers still require further work to be completed prior to acceptance that we are given the opportunity to address these.

Yours Sincerely,

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