Author's response to reviews

Title: Bridging Bronchus - a rare cause of recurrent wheezy bronchitis

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Version: 3 Date: 27 April 2012

Author's response to reviews: see over
Dear Dr Elena Chiappini,

We would like to resubmit the enclosed manuscript “Bridging Bronchus - a rare cause of recurrent wheezy bronchitis”. We appreciated the reviewers’ constructive suggestions and have revised the manuscript accordingly. All changes of the manuscript were marked in red letters.

With kind regards
Anja Schnabel

Reviewer 1

MAJOR COMPULSORY REVISIONS
1. More clinical information should be provided in the Case Presentation” section. The reader should understand which clues lead to suspect a more important condition than just viral wheezing. Was the girl wheezing despite long-term therapy for wheeze (Inhaled Corticosteroids or Leukotriene Receptor Antagonists)? Did she have a “noisy breathing” even when she did not have a cold? Was a tidal flow-volume loop performed to search for tracheal compression? Most preschool wheezers have symptoms which recur “frequently” (page 4, line 8) or respond poorly to treatment, yet not all of them should undergo a bronchoscopy. The authors should make this point clear in the discussion and mention the clues that should be looked for in the decision making process for further investigations in a child with recurrent wheezing.

The authors thank the reviewer for these important advices and included the mentioned aspects in the case presentation and in the discussion.

2. Although the authors conclude that the bridging bronchus had no other associated anomalies, whether or not the pulmonary artery performed a sling is not completely clear and should be better specified in the text.

More details were included in the manuscript.

3. After the diagnosis the girl was initiated on leukotriene receptor antagonist. Was this a long-term treatment? For how long was this treatment used? Was it stopped during summer months?

The therapy with LTRA was only performed for about 4 weeks and then finished.

MINOR ESSENTIAL REVISIONS
1. Page 6, line 2: "original reported" should be "originally reported".
2. Page 8, line 16: "often" should be "more often".

The manuscript was corrected and the reference was added.

1. Pictures (with exception of Fig. 1) are of excellent quality. Is there a qualitatively better figure available for fig.1?

The authors apologise for the low quality of the picture, which is due to the fact that it is a snap shot from a film sequence.

2. In Fig. 3, it would be useful to demonstrate where the different bronchi (upper, middle on the right and lower lobes) origin. That would show more clearly what kind of bronchus one finds in these five different situations and what is trachea and what bridging bronchus.

The authors added the missing information.

Reviewer 2

Minor Essential Revisions

1. There is no author from the Department of Pediatric Radiology. The institution should be deleted or the authors corrected.

The authors apologise for the mistake, the missing mark of the correct author was added.

Major Compulsory Revisions

The main question of this case report is the kind of malformation present in this patient. CT scan of the lung demonstrated a tracheal origin of the right upper lobe bronchus. The actual bifurcation tracheae was located little more distally than usual (at a lower vertebral level than that of the normal carina) with a tracheal stenosis between upper lobe bronchus and main carina. Distal of the main carina the bronchial system seems to be mainly normal in bronchial architecture. A right upper lobe bronchus leaving the trachea and not the right main bronchus with additional malformations in the bronchial tree like tracheal stenosis are rare malformations. The original paper by Gonzalez-Crussi published a "bronchial drainage of the right middle and lower lobes that were provided by a large bronchial branch that originated in the left main-stem bronchus (it seems to be the distal trachea, see below) and bridged the mediastinum before entering the contralateral lung. Crossed anatomic airway relationships after formation of primary branches are incompatible with current concepts of embryologic lung development." Obviously, Gonzalez-Crussi et al. had a similar malformation with a tracheal origin of the right upper lobe. They defined this site, where the upper lobe bronchus leaves the trachea, as bifurcation tracheae. The left airway was described as left main stem bronchus. It is questionable if this is correct as it seems to be the distal trachea. Bifurcation trachea is defined as the site where right and left stem bronchus are beginning. Using this definition bifurcation tracheae would be distally and located not in the middle but in the left side of the
thorax with a long bridging (right main stem) bronchus. These are the two special features of this patient in the paper by Gonzalez-Crussi (bifurcation tracheae displaced to the left side and a long right main bronchus from left to right side). Furthermore, the latter concept would be compatible with current concepts of embryologic lung development. Schnabel et al. report about a very interesting patient with a complex pathology. They correctly described the pathology in their CT-scan. Authors may discuss the different anatomic variants and may prove if the concept of bridging bronchus is applicable in this case. A good definition what a bridging bronchus is, would be helpful.

The authors thank the reviewer very much for his attentive and critical analysis of the different anatomical malformations and their correct definition. We thoroughly revised the manuscript and described and defined more clearly the anatomical differences.

In summary, it is a seldom malformation that is very impressive not only for a pediatric pulmonologist and should be published. The reviewer approves the paper for publication after revision.