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Tongue–lip adhesion and tongue repositioning for obstructive sleep apnoea in Pierre Robin sequence: A systematic review and meta-analysis

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Abstract

Objective:

To search for studies on tongue–lip adhesion and tongue repositioning used as isolated treatments for obstructive sleep apnoea in children with Pierre Robin sequence.

Methods:

A systematic literature search of PubMed/Medline and three additional databases, from inception through to 8 July 2016, was performed by two authors.

Results:

Seven studies with 90 patients (59 tongue–lip adhesion and 31 tongue repositioning patients) met the inclusion criteria. Tongue–lip adhesion reduced the mean (\pm standard deviation) apnoea/hypopnoea index from 30.8 ± 22.3 to 15.4 ± 18.9 events per hour (50 per cent reduction). The apnoea/hypopnoea index mean difference for tongue–lip adhesion was -15.28 events per hour (95 per cent confidence interval = -30.70 to 0.15 ; $p = 0.05$). Tongue–lip adhesion improved the lowest oxygen saturation from 75.8 ± 6.8 to 84.4 ± 7.3 per cent. Tongue repositioning reduced the apnoea/hypopnoea index from 46.5 to 17.4 events per hour (62.6 per cent reduction). Tongue repositioning improved the mean oxygen saturation from 90.8 ± 1.2 to 95.0 ± 0.5 per cent.

Conclusion:

Tongue–lip adhesion and tongue repositioning can improve apnoea/hypopnoea index and oxygenation parameters in children with Pierre Robin sequence and obstructive sleep apnoea.

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