

Translational Studies on Grafting Materials in Alveolar cleft repair

Citation for published version (APA):

Kamal, M. (2018). *Translational Studies on Grafting Materials in Alveolar cleft repair: Experimental Applications in Preclinical Sciences*. [Doctoral Thesis, Maastricht University]. Maastricht University. <https://doi.org/10.26481/dis.20181024mk>

Document status and date:

Published: 01/01/2018

DOI:

[10.26481/dis.20181024mk](https://doi.org/10.26481/dis.20181024mk)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

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- The final published version features the final layout of the paper including the volume, issue and page numbers.

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TRANSLATIONAL STUDIES ON GRAFTING MATERIALS IN ALVEOLAR CLEFT REPAIR

EXPERIMENTAL APPLICATIONS IN PRECLINICAL SCIENCES

Mohammad Kamal

24 October 2018

1. A suitable bone substitute material should enhance bone regeneration, be biocompatible with absence of toxicity, maintain graft volume with controlled rate of resorbability, may not harm the immunogenicity, and eventually be replaceable by viable bone. (this thesis, chapter 1)
2. Autogenous bone harvested from the iliac crest remains to be the standard of care to graft alveolar cleft deformities, yet alternative sites have also been used such as the calvaria, tibia, and mandibular symphysis, along with various novel bone substitute materials. (this thesis, chapter 2)
3. Optimizing the quality of the existing and novel bone grafting materials requires a reliable biological animal model to conduct interventional studies and evaluate the clinical outcome with respect to osteogenesis and healing. (this thesis, chapter 4, 5, 6, 7)
4. Surgically created alveolar clefts are suitable for experimental studies when compared to congenitally induced animal models with increased need of technical expertise, concurrent fetal malformations, and an increased incidence of intrauterine fetal death and abortions. (this thesis, chapter 6, 7)
5. Clinical impairments in cleft deformity are not limited to aesthetic disfigurements, but extend to affect patient's quality of living and their functional capacity in speaking, hearing, swallowing, and chewing prompting a comprehensive interdisciplinary treatment approach. (this thesis, Valorisation)
6. Correcting the alveolar cleft deformity during childhood decreases the functional limitation of the patients, enhances their oral rehabilitation and facial appearance, increases their social acceptance, and improves the overall psychological status of these patients. (this thesis, Valorisation)
7. Everything has its beauty but not everyone sees it. (Confucius, 551 BC - 479 BC)
8. The greatest way to live with honor in this world is to be what we pretend to be. (Socrates 470 BC - 399 BC)
9. With each new language we learn, a new personality is born, and a new cognition emerges.
10. We shall never know the good that a simple smile can do. (Mother Theresa)