

Dental implants in patients with Osteogenesis Imperfecta, ups and downs



UiO : Det odontologiske fakultet

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Background

OI characteristics

- ▶ fractures
- ▶ short stature
- ▶ muscle weakness
- ▶ hearing loss
- ▶ fatigue
- ▶ joint laxity
- ▶ curved bones
- ▶ scoliosis
- ▶ blue sclerae
- ▶ dentinogenesis imperfecta
- ▶ weak tissues, fragile skin
- ▶ bleeding, easy bruising, frequent nosebleeds
- ▶ breathing problems, asthma, other lung problems

Previous results

We have previously reported on the survival rate of dental implants in patients with OI (Jensen JL et al, Oral Surgery, 2011, 4, 105-114):

Retrospective study

- seven patients, 26 implants
- seen 74 months after loading (range 25-135 months)
- two implants lost
- survival rate 93.3%

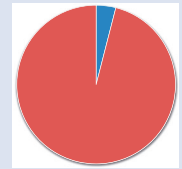
Prospective study

- seven patients, 20 implants
- followed prospectively for 20 months after loading (range 12-33 months)
- no implants lost
- short term implant survival 100%

Prospective study

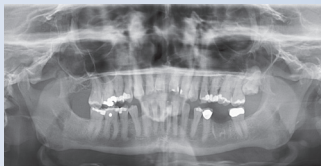
	Sex/ year born	Implant site	Implant brand	Date installation	Date loading	Date last control
1	Male, 1936	15, 13, 11, 21, 23, 25	Astra	April 2009	Dec 2009	Nov 2010
2	Female, 1946	24, 25	Astra	Jan 2007	Jan 2008	Dec 2009
3	Male, 1953	24, 25, 45, 46, 47	Astra	March 2007 Sept 2007	Oct 2007 April 2008	Dec 2009
4	Male, 1991	31	3l	June 2007	Feb 2008	Dec 2009
5	Male, 1972	25, 31, 41	Astra/3l	June 2007	Feb 2008	Dec 2009
6	Female, 1963	15, 36	Astra	June 2008	Jan 2008	Dec 2009
7	Female, 1955	36	Straumann	April 2009	Oct 2009	Oct 2010

Retrospective and prospective study, 46 implants in total, 2 lost



Follow up case 7

- Patient characteristics: female born 1955, type IV OI, severely debilitated, sitting in a wheel chair
- Risk factors besides OI: Fosamax for three years prior to 2006, Aclasta in 2010 for a short period, smoking
- Severe peri-implantitis was noted three years after loading



Tooth 36 was extracted in November 2008, preoperative status February 2009



Implant installation April 2009: One-stage surgery (Straumann®, 4.1 x 8 mm TL)



Loading 2009 October

Follow up 6 months, April 2010



Follow up 1 year and 3 years; 8 mm pocket depth, the prosthodontists asked for its removal

Surgical treatment of peri-implantitis

- Amoxicillin and Metro-nidazol three days prior to and four days after surgery
- Elevation of flap, identification of large buccal lacuna
- Mechanical removal of inflammatory tissue
- Rinsing with saline and H₂O₂
- Mechanical cleaning with rotating titanium brush
- At suture removal after 14 days, closure screw was partly exposed and exchanged with a healing abutment



Reloading June 2013, and follow up September 2013. No symptoms. No bleeding on probing. No detectable peri-implant bone loss on periapical radiographs.

Conclusions

- The patient is happy to have kept her implant retained crown, and implant survival in our prospective study is still 100%
- Close follow-up is necessary in patients with dental implants and many risk factors such as OI, bisphosphonate use, and smoking