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| **Name:** |
| Hanna Anderson |
| **Group:** |
| 9A-1 |
| **Pathology Question:** |
| What pathology is associated with immediate placed implants? |
| **Report:** |
| Dental implants have been an invaluable tool in restoring form, function, and esthetics in patients for many years. A regretful aspect of dental implants, however, is their time commitment. Traditionally, after teeth were extracted, 3-6 months were allowed for the site to regrow bone tissue, and then after those months, the implant could be placed. This continues to be good practice, but another option is immediate placement of implants. This allows good esthetics because the patient never goes without a tooth, and it also decreases the loss of bone height, width, and surrounding soft tissue (Mello et al. 2017). While this is favorable, the immediate implant’s survival rate, the presence of pathology in the socket, and systemic factors could determine if an immediate implant is the best treatment for a patient.  First, it is valuable to consider the survival of implants placed immediately versus those placed after healing. According to one study, after considering over 3,000 implants, it was found that the implants placed after the socket healed survived significantly better than the immediate implants. Although this statistically is different, the survival rate of the implants after healing was 98.38% while the immediate implant survival was 95.21%. So, both success rates were very positive, just significantly different according to the analysis criteria. While there was discrepancy in success between the two implant types, they also found that loss of soft tissue health and marginal bone loss were not significant between the two, which is favorable for long term periodontal health (Mello et al. 2017).  A consideration for placing an immediate implant is the health of the natural tooth socket. There are many conflicting ideas surrounding the safety and efficacy in placing implants in infected sites compared to healthy sites. One meta-analysis found that implants placed in infected sockets would not fail any more significantly than those placed in healthy sockets. The data bordered statistical significance however, (P = 0.058) so more research needs to be done, considering the p value almost suggests the implants placed in infected sites significantly failed more often than those placed in healthy sites. The infections considered included endodontic and periodontal infections, which led to failed osseointegration. Contrary to that, however, if the implant into the infected site did not fail, there was good chance the marginal bone loss over time would be no different than if the implant was placed into a healthy socket (Zhao et al. 2015).  A final consideration in placing an implant (immediate or delayed) would be any pathologies associated with the patient as a whole. A contraindication to implant placement would be in patients taking oral bisphosphonates due to being diagnosed with osteoporosis or receiving other kinds of therapy involving this drug (Gomez-de Diego). Additionally, there is a general consensus there are increased risks of complications such as peri-implantitis when the patient is a smoker or has diabetes (Turri et al. 2016).  Implants are a valuable part of dentistry today and research will continue to explore their possibilities. Knowledge of immediate implant survival rate, ability to be placed into an infected socket, and the association with patient’s systemic pathologies have already led to better treatment planning and will continue to improve patient care with more research and clinical experience. |
| **References:** |
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