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| **Name:** |
| Tyler Grisar |
| **Group:** |
| 3A-5 |
| **Pathology Question:** |
|  What are causes of implant failure and how can they be avoided?  |
| **Report:** |
| The cause of a failure of an implant can be placed into three separate categories; biomechanical overload, infection/inflammation, and other.Biomechanical overload can result in the implant to become loose or even fracture. These can be avoided by proper placement by the dental team that is placing the implant, or preparing the patient for the implant. Poor angulation or positioning, parafunctional habits, not having an adequate amount of posterior support or bone can all be attributed to biochemical overload. The lack of osseointegration or improper retention in the cement or threads of the screw will result in the loosening of the implant. The way to avoid biochemical overload would be proper planning and execution by the dentists. Making sure that the proper amount of bone and the positioning is correct can ensure the success of the implant. Patients who are known to have parafunctional habits such as bruxism have been proven to have higher implant failure rates than those who do not have these habits. Therefore patients who are known to brux should consider alternate methods. If an implant is used extra care should be taken while designing the impant to avoid excursive contacts.Infection or inflammation of the tissues surrounding the implant can result in periodontal disease which can progress to boneloss. The resorption of bone will result in a loss of retention of the implant and therefore failure. To avoid this, proper oral hygiene is a must. The dentist must make sure that the patient knows the proper technique of brushing and cleaning their teeth. They should also have 3-6 month recalls for prophylaxis appointments to make sure that the patients are keeping up with their oral health. It is also important for the dentist to make sure that there is not extra cement or overhangs subgingival to ensure that periimplantitis does not occur. The other causes of implant failure are natural bone resorption and traumatic injuries. When a person loses their tooth or teeth, the lack of normal pressure on the bone will result in atrophy and resorption. When multiple teeth in one area are lost, more resorption occurs due to there being even less pressure. Placing a single implant in this area restores that natural pressure, but the surrounding areas may still resorb. This can result in not enough bone being present and the implant failing. To avoid this, the implant should be placed as soon as possible after the tooth is extracted. This should be 4-6 months after the extraction. Injury to the face or jaw can result in fracture and or inflammation and can result in the failure explained above. The best prevention for this is the avoidance of situations that can cause such traumatic injuries or a sports guard while playing sports. |
| **References:** |
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