

THE SUCCESSFUL RATE OF AMALGAM RESTORATIONS IN RELATION TO POSITION OF THE MARGINS

Amalgam has been the standard material used for restoration of class I, class II and V cavities in the posterior teeth. Amalgam does not bind to the tooth substance chemically, therefore it has to be retained by mechanical means such as by undercutting the tooth. According to Black's principles the cavity preparation for restoration often involves the removal of large amounts of healthy tooth substance. The margins of the restoration should be extending to the smooth surface of the tooth. The main aim of the present study is to determine the success of dental restoration in relation to the position of the margins of the amalgam restorations.

The subjects were selected randomly using the simple random sample without replacement method, from the outdoor dental patients' register of General Hospitals in Southern, Western and Central provinces. If any subject was found to be without a dental amalgam restoration he/she was excluded from the study and another subject was selected using the same procedure. On the selected patients, restorations were examined in the dental clinic. A sickle shaped explorer, mouth mirror and other basic dental examination instruments were used. The restored teeth were dried prior to the clinical examination. The California Dental Association (CDA) recommended indicators were used to assess the quality of restorations. The used

indicators were anatomical form, marginal integrity, and surface of the restoration and secondary caries. These indicators were recorded. If one or more of these criteria were defective the restoration was considered as unsatisfactory.

Of the total 2500 amalgam restorations, 1460 (58.4%) restorations were satisfactory and 1040 (41.6%) were unsatisfactory. Of the satisfactory 1460, 1324 (90.68%) were placed at smooth surfaces while 136 (9.32%) restorations were placed at pits and fissures. As regard to the unsatisfactory restorations out of 1040 satisfactory restorations, 204 (19.61%) were placed at smooth surfaces and 836 (80.39%) were placed at pits and fissures. The success rate was significantly high when the restorations were placed at the smooth surface.