REVIEW OF LITERATURE:

1. **Goyal L, Chawla K (2021)** in a systemic review of ten relevant studies of efficacy of ssmicrosurgery in treatment of localized or multiple gingival recession and concluded that improvement in the percentage of mean root coverage with microsurgical approach and predictability of complete root coverage is better with microsurgical instrumentation but results are not statistically significant.
2. **Moro MG et al. (2020)** in a systemic review of seven studies, aimed to evaluate the effectiveness of magnification on root coverage compared to procedures without magnification and concluded that the use of magnification can increase percentage of root coverage (PRC) in root coverage surgeries.
3. **Reddy S et al.(2019)** in a case series of open flap debridement using microsurgical loupes and modified widman flap in five patients having 10 sites with similar periodontal defects in contralateral quadrants were selected and randomly assigned into microsurgical and conventional groups and the results showed that microsurgical approach is superior in terms of early wound healing and patient comfort.
4. **Yadav D et al. (2018)** in a case report on management of multiple marginal tissue recession using Zucchelli's modification of coronally advanced flap and pericardium membrane in an esthetic zone using periodontal microsurgery stated that root coverage procedures under magnification always have an added benefit of reducing patient's discomfort leading to an overall enhanced treatment outcome.
5. **Shreya S et al. (2018)** conducted a histopathological and scanning electron microscopic study to evaluate microsurgical and conventional open flap surgical

procedure outcomes in patients with periodontitis. 5 patients in whom extraction was indicated due to severe form of periodontitis were selected. 5 control sites received conventional open flap surgery and 5 test sites received microsurgical open flap surgery. They concluded that SEM examination revealed residual calculus in both the microsurgically treated and conventionally treated tooth specimens, but loss of tooth substance was more obvious in control sites than test sites. Immunochemistry revealed more intensity of smooth muscle actin stained around test site tooth than control site tooth, indicating better healing at test site.

6. **Kumar A et al. (2017)** aimed to evaluate autologous platelet-rich fibrin (PRF) and autologous connective tissue graft (CTG) in conjugation with coronally advanced flap (CAF) using microsurgical approach. Forty five class I and II recession defects were randomly divided into three groups: Group I sites treated with CAF with PRF, Group II sites treated with CAF with CTG and Group III sites treated with CAF alone using microsurgical approach and concluded that in terms of complete root coverage Group I showed better results, followed by Group II and then Group III. Patient comfort score (PCS), Patient esthetic score (PES) were highest for Group I followed by Group III and Group II and significant increase in gingival thickness measured using transgingival probing in Group II and no significant changes seen in Group I and Group III.
7. **Singh SK et al. (2017)** compared the root coverage of localized gingival recession using modified coronally advanced flap and root conditioned with 24%ethylenediaminetetraacetic acid (EDTA) with and without magnification and

concluded that microsurgery offers less pain and enhanced outcomes than macrosurgery.

8. **Ucak O et al.(2016)** performed a randomized controlled clinical trial to evaluate the laterally moved coronally advanced flap under magnified vision with microsurgical instruments(LMCAF-M) and to compare with the conventional LMCAF technique(LMCAF-C) in 50 patients with Millers class III recessions and it showed that LMCAF-M has definite advantages over conventional technique in terms of complete root coverage and mean root coverage, decreased postoperative morbidity and increased acceptance by the patients.
9. **Agarwal SK et al. (2016)** aimed to evaluate the efficiency of CAF procedure under microsurgical approach for miller's class I and II gingival recession defects with the combination of PRF or amnion membrane (AM) in comparison to CAF alone. The study observed enhancement in root coverage when PRF or AM were used in conjugation with CAF as compared to CAF alone.
10. **Jindal U et al. (2015)** compared the recession coverage with sub-epithelial connective tissue graft using macrosurgical and microsurgical approach, the sites were randomly allocated into test (microsurgical approach) and control (macrosurgical) groups and both the groups demonstrated predictable mean root coverage. Clinical attachment level gain was slightly better in test group.
11. **Perumal MP et al. (2015)** conducted a split mouth study to compare the clinical outcomes of microsurgery with conventional open flap debridement in 13 patients with chronic periodontitis. The test sites received microsurgery and control sites received conventional procedure. At baseline, 3, 6, 9 months parameters like

probing pocket depth, clinical attachment level, gingival recession, gingival bleeding index were recorded. Post operative healing at 1 week by early healing index and pain scale for 7 days were assessed. They concluded that microsurgical approach can substantially improve the early healing index and induce less postoperative pain compared to conventional macroscopic approach.

12. **Nizam N et al. (2014)** performed a controlled split mouth design 21 teeth receiving microsurgical approach and 21 teeth receiving macrosurgical approach for root coverage using coronally positioned flap and subgingival connective tissue. The results showed that microsurgical approach to root coverage with gingival recession preserved the root coverage longer than macrosurgical approach and healing was faster in microsurgical approach were as aesthetic outcomes were similar in both approaches.
13. **Ramisetti A et al. (2014)** in a case report on microsurgically assisted bilamminar free rotated papilla autograft (FRPA) procedure for root coverage combined with CAF showed predictable and stable method for root coverage in shallow two teeth gingival recessions and the involvement of single surgical site, faster tissue healing and minimal postoperative morbidity were seen, due the use of microsurgical approach proved invaluable for patient compliance and successful treatment outcome.
14. **Kahn S et al. (2013)** have done a case report on periodontal plastic microsurgery in the treatment of deep gingival recession after orthodontic movement in three patients where a subepithelial connective tissue graft was placed using

microsurgical technique and it showed successful root coverage and keratinized tissue gain improving the gingival esthetic pattern.

15. **Pandey S et al. (2013)** conducted a study to evaluate and compare the conventional and microsurgical approach in performing the free rotated papilla autograft combined with coronally advanced flap surgery in the treatment of localized gingival recession and both the approaches showed significant clinical improvessment in recession depth, recession width clinical attachment level and width of keratinized tissue. However, on comparing both groups, these parameters did not reach statistical significance.
16. **Mamoun JS (2013)** evaluated the use of high magnification loupes or surgical operating microscope when performing prophylaxes, and stated that it improved the ability to detect the hard calculus and soft biofilm and sense the color contrast between calculus and tooth structure and the morphological contours of both supragingival and subgingival tooth surfaces and precisely reproduce working end angles that resulted in a progressive and efficient cleaning of tooth surfaces.
17. **Bittencourt S et al. (2012)** in a split mouth study of 24 patients with bilateral Miller's class I or II was to compare root coverage using subepithelial connective tissue graft with or without use of surgical microscope and stated that both approaches are produced root coverage and the use of surgical microscope showed additional benefits in the treatment outcome.
18. **Shanelec DA et al. (2011)** in a case series used the SMILE (Simplified Microsurgical Implant Lifelike Esthetics) Technique for evaluating dental implant

microsurgery and reported an excellent esthetics and predictable success in dental implant osseointegration.

19. **Latha TA et al. (2009)** clinically evaluated combined rotated papillary pedicle graft and coronally repositioned flap, using a microsurgical approach and observed that percentage of root coverage, width of keratinized gingival and gain in the clinical attachment were significantly improved and the use of magnification for mucogingival surgery resulted in achieving a high degree of success and predictability and excellent esthetic outcome.
20. **Cairo F et al. (2008)** in a case series evaluated the fiber retention and papilla preservation technique in the treatment of infrabony defects using a microsurgical approach and the clinical outcome showed gain in the attachment, pocket reduction, minimal postsurgical recession in all treated sites.
21. **Nordland WP et al. (2008)** in a series of case reports on microsurgical approach for interdental papilla augmentation postulated predictable root coverage procedures with an enhancement of blood supply at the recipient site, which promoted the survival of the donor tissue. It was also noted that elimination of releasing incisions improved vascularity to the surgical area and enhanced post surgical outcome.
22. **Francetti L et al. (2005)** performed a controlled clinical trial in twenty four patients with gingival recession were treated with different mucogingival surgeries and half of the site were treated with the aid of surgical microscope and remaining half were treated without microscope. The outcomes of the test group showed a major improvement over the control group, no significant differences could be detected between both groups.

23. **Burkhardt R et al. (2005)** in a controlled split mouth study of 10 patients with bilateral class I and II recessions at maxillary canine and the defects were randomly selected for root coverage either by a microsurgical or macrosurgical approach and demonstrated that microsurgical approach substantially improved the vascularization of the grafts and root coverage compared to macrosurgical approach.
24. **Wachtel H et al. (2003)** compared the combination of microsurgical access flap and enamel matrix derivative (EMD) and microsurgical access flap for the treatment of periodontal intrabony defects and both treatment modalities showed high percentage of primary closure and maximum tissue preservation and in terms of CAL gain and PPD reduction, the combination with EMD appeared superior to microsurgical access alone.
25. **Cortellini P et al. (2001)** in a case series evaluated the microsurgical approach to periodontal regeneration with deep interdental intrabony defects using GTR membranes and the defects were accessed with papilla preservation flap with the aid of an operating microscope and microsurgical instruments. The procedure resulted in primary closure of the interdental tissues, gain in CAL and minimal recessions.