Platelet-rich fibrin dressings in treating nonhealing leg ulcers

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THERAPEUTIC CHALLENGE

Management of nonhealing leg ulcers is a challenging task. They are a major cause of morbidity and cause impairment in activities of daily living, and an effective treatment for nonhealing leg ulcers still remains elusive. Platelet-rich plasma (PRP) and platelet-rich fibrin (PRF) have been found viable in the

Fig 1. Vacutainer with 5 mL of patient blood spun at 2800 rpm to isolate natural fibrin matrixgel. Matrixgel forms in the middle of the tube (*star*).

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treatment of chronic ulcers secondary to scleroderma, venous leg ulcers, diabetic foot ulcers, and neuropathic ulcers.[1,2] Recently, PRP and PRF are gaining popularity in the treatment of trophic ulcers of leprosy as well.

SOLUTION

The ulcer size is measured in terms of length, breadth, and depth. Under aseptic precautions, 5 mL of blood is collected in a sterile vacutainer devoid of anticoagulant, followed by centrifugation at 2800 rpm for 15 minutes. A vacutainer is chosen over a centrifugation tube to save cost. At the end of centrifugation, a natural fibrin matrixgel forms in the middle of the tube; straw-colored plasma migrates to the top of the tube and red blood cells collect to the bottom (Fig 1). The straw-colored plasma is discarded, and the fibrin gel is separated from the red blood cells on a sterile gauze. Subsequently, the fibrin gel is placed on the ulcer base; covered with a sterile, nonadherent dressing, and left undisturbed for 7 days (Fig 2). This procedure is repeated weekly until complete re-epithelization of the ulcer, with measurement of the ulcer size and photographic documentation of healing at every sitting. Therapeutic response is generally seen within 2-4 weeks (Fig 3).

Fig 2. Nonhealing ulcer on the ankle.

Fig 3. Ulcer treated with platelet-rich fibrin dressings after 4 weekly sessions.

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