Bipolar forceps of a high-power electrosurgical unit for precise removal of small benign skin lesions

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SURGICAL CHALLENGE

Electrosurgical devices can be either monopolar or bipolar depending on configuration of the electrodes. In the monopolar type, there is a single electrode tip that delivers energy to the area between the electrode and the grounding plate, whereas in the bipolar type, energy is delivered between the 2 electrodes holding the tissue. Monopolar forceps can work in a cutting or coagulation mode. The cutting mode may make precise cuts but does not effectively coagulate the feeding vessels, whereas the coagulation mode coagulates small feeding vessels but causes a lot of collateral damage such as charring and scarring. The bipolar forceps in low-power electrosurgical machines cannot cut and coagulate tissue. They are used solely for hemostasis in dermatologic surgery and not for removal of benign lesions.[1]

SOLUTION

We propose the use of a high-power electrosurgical machine (KLS Martin, Jacksonville, FL) with bipolar forceps for removal of small benign lesions. These are used for coagulation of bleeding vessels during surgery. These forceps can overcome the resistance of the tissue between the 2 poles at a distance of around 3 to 4 mm. Use of bipolar forceps results in much less collateral thermal damage, as the flow of energy is restricted between the tips of the active and return electrodes. There is a better-controlled distribution of energy in bipolar forceps and less heating and pain.[2] Thus, when compressed between the 2 ends of bipolar forceps, any benign lesion with a diameter of 1 to 2 cm can be effectively ablated without much collateral damage (Figs 1 and 2, *A-C* and Video 1). The wounds thus created heal quickly without much scarring.

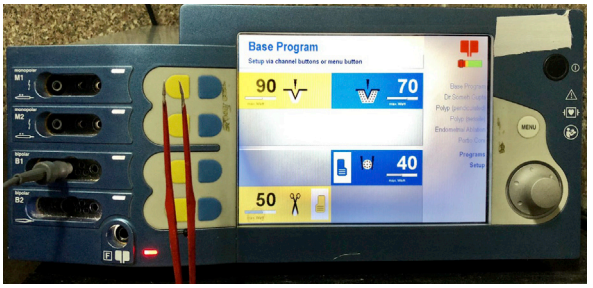

Fig 1. An electrosurgical unit with bipolar forceps.

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Fig 2. A, A patient with multiple genital warts. **B**, Six months after removal of warts with bipolar forceps. Note that there is no scarring. **C**, For comparison, monopolar electrosurgery has resulted in scarring and depigmentation in another patient with genital warts.

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