

Surgical pearl: a simplified technique of using disposable needles as electrodes

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Dear Editor,

Electrosurgery is a very common procedure in dermatology. Accordingly, we regularly need aseptic electrodes for the electrosurgery units; these electrodes are mostly supplied with the machines. Needle and blade electrodes are used up when operating the devices, meaning that the supply diminishes quickly in the clinic. In addition, the electrode of an electrosurgical device does not fit into another device. In case of an emergency, the treating doctors become helpless. In that situation, the hypodermic needle has been used as an electrode after a modification. The proximal part of the broken needle is bent in a small V or J shape to fit well into the handpiece of the device^{1,2}. It is a little difficult to mount on and remove this electrode from the socket of the probe. To use this needle as an electrode, the needle needs to be inserted into the probes with some force from the artery forceps or needle holder. On the other hand, a simple modification in the proximal end of the needle is done to fit it tightly in the handpiece of the probe.

In this study, I used a set of needles that are easily available in clinics and medical shops to make disposable electrodes. I selected the 16G, 18G, and 23G hypodermic needles according to our needs. All three needles were separated from their hubs. Then, the proximal end of each needle was angulated with the help of artery forceps (Figure 1A,B). The 16G needle fitted tightly into the probe and was mounted onto the probe without modification. This 16G needle was used as a needle probe. The beveled part of the 16G/18G needle was used as a blade electrode after compressing it with a needle holder (Figure 1C). The 16G needle can be used as a small plate electrode after compressing the beveled portion for coagulating a larger area. In addition, the cutting edge of the 16G needle can be used as a loop electrode after bending the beveled

portion into a C or V shape, and its external surface acts like a ball electrode (Figure 1D, E). The 18G needle was loose in the socket of the probe; its proximal end was bent by 15 to 20 degrees. After this, the 18G needle fitted well into the probe when the cap of the handpiece was applied. In the case of the 23G needle, it was very loose in the probe, so its proximal part was bent by 30 to 45 degrees. After this, the 23G needle was fitted and fixed in the probe like the 18G needle electrode (Figure 1F). 23G needle electrodes can be used to destroy small skin lesions. All of these electrodes can be kept straight or angulated at the time of a procedure as required. It was found that slightly bent or angulated needle electrodes (18G and 23G needles) can be inserted, fixed, and removed with greater ease compared with the small V and J shape modifications. In such a way, the needle can be easily modified and used as a disposable electrode of the electrosurgery unit for pinpoint destruction, cutting, and coagulation of lesions. Importantly, the prepared needle electrodes can be stored in the needle cap for future use when there is an emergency.

Conflict of interest: None declared.

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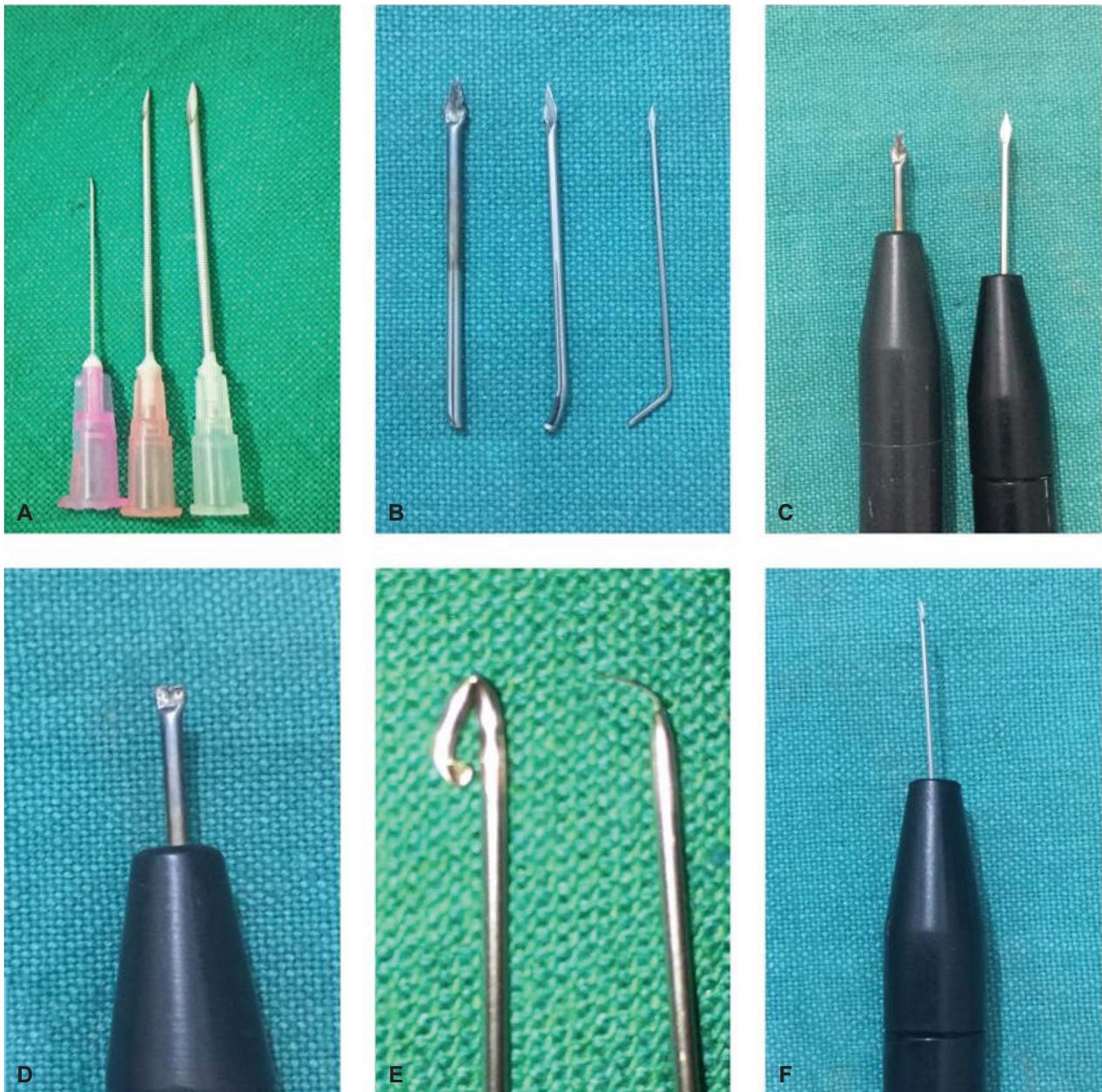


Figure 1. (A, B) The needles and their bent proximal parts, (C) The 16G and 18G needle electrodes are fixed in the probe, (D, E) The tip of the 16G needle is curved for the loop electrode and is bent into a small J, V, or U shape for the ball electrode, (F) A 23G needle electrode is fixed in its probe.

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