

Using Ultrasound Imaging to Assess the Invisible Deep Tissue Defect in Primary Health Care Wound Clinic

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Introduction:

Some problematic wound like wound with undermining, tract, sinus or pocketing with small opening which are difficult to assess the condition, volume or configuration of wound.

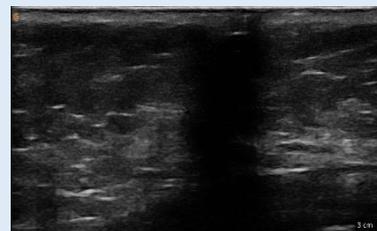
Portable ultrasound is suitable for clinic to assess wound condition which had unknown condition under skin. Since Oct 2021, portable ultrasound was firstly introduced in Primary Health Care Wound Clinic in Hong Kong East Cluster (HKEC).

Methods:

The case studies were conducted in 2 Wound Clinics HKEC. Those cases had undermining wound were invited to have portable ultrasound imaging in the bedside of Wound Clinic. The wound opening was covered by transparency dressing. Portable ultrasound device was connected to iPad for imaging.

CASE 1:

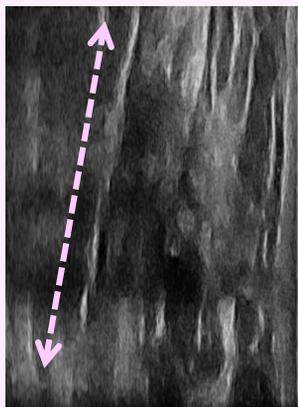
A female case presented with umbilicus abscess, the wound with pin-hole opening and mild erythema. Ultrasound shown 3cm deep undermining with tissue defect under skin.



Transverse session

CASE 2:

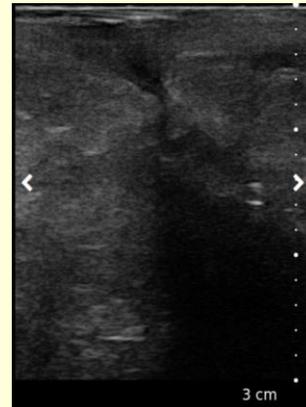
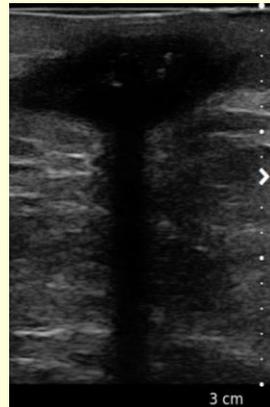
A female case presented left breast wound, 1.5cm wound opening on the base of left breast with unknown depth of track on 12H. Ultrasound shown around 7cm deep straight tract without branching.



Longitudinal session

CASE 3:

An old lady with right hip abscess wound, on and off with fluid collection detected. Suction tubing to assess the depth but coiled inside. After ultrasound imaging, around 3cm tract with 2.2cm x 0.8cm dome shape under skin and form a mushroom like undermining.



Transverse session

Results:

After Ultrasound imaging, proper packing and drainage could be performed for un-visualized wound. In order to eliminate pre-mature healing and fluid collection aiming to promote wound healing gradually and prevent further complication.

Conclusions:

Ultrasound can provide accurate and meaningful information to assist in clinical decision making. Future studies should be conducted to enlarge the data base and consider as a routine incorporation of ultrasound in wound assessment to improve patient outcomes.