PART II

VENOUS ULCERS

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Procedure for Obtaining Ankle-Brachial Index

Diagnostics

It is very important to complete an Ankle-Brachial Index (ABI) in order to rule out any Arterial component to the ulceration. ABI results should be between 1.0 and 1.3. If the results are higher this can indicate calcification in the venous wall which is often seen in the Diabetic patient thus, a Toe-Brachial Index (TBI) is indicated. If the results are less than 0.9 then there may be an Arterial component and depending on the results the amount of compression should be adjusted to less compression if there is borderline arterial problems.

Procedure for Obtaining an ABI

1. Lay patient in a supine position in a warm and quiet place for 10 minutes to allow the patient to relax for best results. Ask them to be as quiet and still as possible.

2. Obtain Brachial pressures in each arm with an inflatable cuff and doppler probe. Inflate 20-30 mmHg above the last beat heard and slowly deflate. The first beat heard is the number you are looking for. Record the highest brachial pressure number.

3. Apply the inflatable cuff above the ankle. Find the Dorsalis Pedis pulse and use acoustic gel with the doppler probe. Hold the probe lightly at a 45-degree angle. Inflate the cuff to 20-30mmHg above the last beat heard and slowly deflate until the first beat is heard. Do this same procedure to the posterior tibial pulse area. Complete procedure to each bilateral lower leg.

4. Record the highest number of each ankle. (Right Dorsalis Pedis and Posterior Tibial) (Left Dorsalis Pedis and Posterior Tibial).

5. Calculate the ABI by taking the highest ankle result on the Right leg and dividing it by the highest brachial result. Do the same with the left leg.

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Bryant, R, Nix D. Acute and Chronic Wounds: Current Management Concepts. , 4th Ed., pg 186. Elsevier, St. Louis 2012.

If the results of the ABI are below 0.5 the patient should be referred for revascularization. If you question your results of the ABI then a Duplex Ultrasound should be performed as this is the gold standard for accurate evaluation of level of highest point of valve failure or degree of reflux.

Evaluation of the Wound

The wound usually has irregular margins and is shallow in appearance. It can be covered with some eschar, slough and granulation tissue. It is highly exudative and there is usually a dull ache but can be worsening pain with dependency. The surrounding tissue shows a brownish discoloration called Hemosiderin staining or scarring from recurring wounds and white patches called Atrophe Blanche. There can be a dermatitis or inflammation and varicosities. There is usually pitting Edema from the ankle to the knee. The wound is usually found in the gaiter area of the lower leg or ankle.

Treatment

We know that with the normal results of the ABI performed that we will use Compression. Compression was discussed in the last newsletter with several examples given. But how do we treat the wound itself before we apply the compression wrap.

I like to mark the amount of inflammation or redness noted around the wound with a permanent marker to be able to watch for signs of infection with dressing changes. We want to wick the exudate away from the skin and into the layers of the compression wrap. Debridement may be necessary due the biofilm of the wound base. Remember, the venous ulcer is highly exudative, you may need a calcium alginate or foam dressing or both on the wound. Take into consideration the age of the wound as a collagen may be necessary to help stabilize the wound base.

I like to use a foam dressing to start then I can always add other dressings as needed. If the exudate is dripping as I am getting the wound prepared then I will add the other dressings from the start. I look also at the MVTR (Moisture Vapor Transfer Rate) of the foam I am using.

if there is a plastic coating on the film, I will make small slit cuts in the plastic to allow the exudate to escape through the dressing and not be trapped. This dressing and the compression wrap stay on for 7 days but if there is strikethrough drainage, I will ask the patient or caregiver to reinforce the wrap with ABDs and gauze until they are seen again in wound care. If there is a large amount of exudate then l will change the compression wrap twice a week.

Patient Involvement

t is helpful to involve the patient in the care plan. Ownership of the disease process and compliance in lifestyle changes is important. Ask your patient to exercise or at least do ankle pumps. Standing, sitting, walking and rocking is a good way to use the calf muscle to pump the blood and fluids into the circulatory system. These exercises should be completed several times daily. Elevation is useful in gravitational flow. Laying down on the couch or in bed with pillows under the feet so the feet are higher than the heart is most beneficial. Lay for 1-2 hours 2x daily. I find many of my patients tend to think their recliner is sufficient but warn the patient; this puts pressure on the pelvic veins.

There are numerous dressings as well as the compression wraps, stockings and garments available through HALO.

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