

TRANSFUSION MEDICINE UPDATE



Institute For Transfusion Medicine

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USE AND MISUSE OF THE BLEEDING TIME

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INTRODUCTION

Appropriate use of the bleeding time remains controversial. Current practice varies from physicians who routinely use bleeding times for pre-operative screening to some others who refuse to perform bleeding times on anyone for any reason. Many of the studies using bleeding times were completed before the current template device was available and good studies that clearly define indications for its use or support it as a predictor of bleeding at surgery are lacking.

Most hematologists usually use the bleeding time based on a combination of clinical impressions from personal experience and a few published studies.

DESCRIPTION

Currently, the bleeding time using the template device is the most reliable, reproducible, and recommended method. For adults, the spring-loaded template lancet makes a 5 mm long, 1 mm deep cut on the volar surface of the forearm. This is dabbed with filter paper every 30 seconds until bleeding stops. The test provides a bleeding time value that is immediately available. The direction of the cut may be made either parallel or perpendicular to the long axis of the arm; as long as the procedure has been standardized in either direction, reliable results may be obtained. We prefer to make the cut parallel to the long axis of the arm because of a perceived reduction in the likelihood of cutting into a larger vein and because scar formation may be lessened. Bleeding times have been performed on the finger tip and the ear lobe in the past but the ability to standardize the technique and obtain reproducible results are questionable. Bleeding times performed in any other site are of no known value.

Pediatric lancets are also available which make smaller cuts in children. This is aesthetically pleasing but adult bleeding time devices may also be accurate in pediatric patients. Again, adequate standardization of the test done by a trained technician, who performs bleeding times frequently and is capable of obtaining

reproducible results, is of primary importance. In addition, we discourage the use of bleeding times in infants who may be unable to remain still during the procedure and thereby spuriously alter the result.

Long bleeding times are stopped in some laboratories above a specified length usually, 15 minutes. While some variation in repeat testing is expected, a markedly prolonged bleeding time is unlikely to revert to normal unless specific measures have been taken to correct it.

RATIONALE

Bleeding times largely reflect platelet function and disorders causing poor platelet function most often give abnormal results. A classic demonstration of this is that bleeding times in hemophiliacs are generally normal while those in von Willebrand's patients are usually prolonged ($\geq 60\%$ of cases). This is despite the fact that hemophilia is a much more severe bleeding disorder but has no associated platelet defect. In contrast in von Willebrand's disease a platelet defect is usually present.

INDICATIONS

Bleeding times are indicated when a disorder of platelet function is suspected by history. It should not be a substitute for the latter. Von Willebrand's disease is the most common congenital clotting disorder with an incidence of up to one percent in the U.S. population. It is frequently associated with a patient or family history of easy bruising, nosebleeds, or post-operative bleeding especially after dental extractions or tonsillectomy.

Common acquired disorders of platelet function include hepatic and renal disease and the effects of drugs, particularly those containing aspirin or any non-steroidal anti-inflammatory drugs (NSAIDs) except choline magnesium trisalicylate (Trilisate). A large number of other drugs, foods, spices, and vitamins also affect platelet function. These include alcohol, beta-lactam antibiotics, onions, and vitamins A and E. Excellent review articles listing all reports of