Tzanck Smear in Dermatologic Practice

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Background

The Tzanck smear, also known as the Tzanck test, was introduced in 1947 by the Frenchman Arnold Tzanck (Grossman & Silvers, 1992). It is a quick, inexpensive, and noninvasive method for the diagnosis of cutaneous diseases. In 1951, the effectiveness of the Tzanck smear was confirmed for the diagnosis of varicella zoster virus and herpes simplex virus (HSV; Blank et al., 1951). Its use subsequently expanded to the diagnosis of other cutaneous diseases such as pemphigus vulgaris.

Since then, the Tzanck smear has been used as a rapid technique for evaluating various erosive vesiculobullous, tumoral, and granulomatous diseases. It can aid in the diagnosis of infectious diseases such as bullous impetigo and bullous diseases including pemphigoid and congenital epidermolysis bullosa. It has been used to evaluate malignancies like basal cell carcinoma (BCC) and benign growths such as seborrheic keratosis. Cutaneous leishmaniasis is a granulomatous disease that is frequently diagnosed by Tzanck smear (Eryilmaz et al., 2014). It is particularly useful in areas that are challenging to biopsy such as the oral mucosa and perioral region. Furthermore, this diagnostic test has great utility in situations where a diagnosis cannot be determined through methods such as polymerase chain reaction (PCR) and histopathology (Oranje & Folkers, 1988).

Indications

The Tzanck smear is a useful diagnostic procedure. Tzanck smears may be used to diagnose other cutaneous infections and blistering diseases and to detect herpesvirus as well as other skin conditions (Gupta & Singh, 2005). It may be implemented in the acute setting to rapidly diagnose cutaneous herpetic infections. The Tzanck smear has been used for the diagnosis of pemphigus vulgaris, specifically in the early stages of the disease (Eryilmaz et al., 2014). Importantly, this smear can help distinguish between Stevens–Johnson syndrome (SJS)/toxic epidermal necrolysis and staphylococcal scalded skin syndrome (SSSS) by the presence or absence of inflammatory cells, respectively (Table 1). The distinction between SJS/toxic epidermal necrolysis and staphylococcal scalded skin syndrome (SSSS) can help distinguish between Stevens-Johnson syndrome and staphylococcal scalded skin syndrome (SSSS) (Tzanck smear).

The smear is usually used when the clinician suspects an infectious cause for the patient's skin lesion. The smear can be performed on a variety of skin lesions, including erosive vesiculobullous, tumoral, and granulomatous lesions. The smear is typically performed on the base of the lesion, and a small amount of squamous debris is collected using a wooden applicator or a cotton swab. The collected material is then spread onto a clean microscope slide and allowed to air dry.

Clinical Procedures

The smear is stained with one of several stains, such as Wright or Giemsa, to identify inflammatory cells, keratinocytes, and other cells. The smear is then examined under a microscope to assess the characteristics of the cells, such as the presence of inflammatory cells, keratinocytes, and other cells. The smear can be used to diagnose various cutaneous diseases, such as herpes simplex virus (HSV), varicella zoster virus (VZV), and other viral infections. The smear can also be used to diagnose other skin conditions, such as pemphigus vulgaris, pemphigoid, and bullous pemphigoid.

Clinical Applications

The Tzanck smear has been shown to be a useful tool in the diagnosis of various skin conditions, including herpetic infections, pemphigus vulgaris, and other dermatologic conditions. The smear has been shown to be more sensitive and specific than other diagnostic tests, such as histopathology and polymerase chain reaction (PCR). The smear can be performed at the bedside, making it a convenient and cost-effective diagnostic tool. The smear is also a quick and noninvasive test, which is particularly useful in emergency settings.

The smear can be used to diagnose various skin conditions, such as herpes simplex virus (HSV), varicella zoster virus (VZV), and other viral infections. The smear can also be used to diagnose other skin conditions, such as pemphigus vulgaris, pemphigoid, and bullous pemphigoid. The smear is particularly useful in the diagnosis of herpetic infections, as it can help distinguish between herpetic infections and other skin conditions that may present with similar clinical features. The smear can also be used to monitor the response to antiviral therapy and to detect herpesvirus as well as other skin conditions.

References


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