BACTERURITEST STRIPS

A strip test for the detection of bacteriuria

Introduction

The management of urinary tract infections has been a problem to the clinician because of the difficulty in estimating levels of significant bacteriuria. Specimens obtained by catheter are ideal, but the risk of introducing infection is substantial¹ and midstream specimens are preferable even though they may be contaminated. Kass² found that many patients with active urinary tract infections are free from symptoms and that infection could be differentiated from contamination by means of the quantitated culture of urine. In true infections the bacterial count of midstream specimens examined without delay usually exceeds 100,000 bacteria per ml, whereas the counts of contaminated urines rarely approach this level.

Semiquantitative methods have been devised which depend upon the microbial reduction either of triphenyl tetrazolium chloride or of nitrates. Findings differ about the reliability of these methods but both give false negatives when compared with cultural methods (Guze and Kalmanson,³ Smith et al.⁴)

A variety of reliable quantitative methods have been reported but the most simple and inexpensive to perform is that described by Ryan, Hoody and Luby⁵ and Leigh and Williams.⁶

A strip of absorbent paper of known dimensions is dipped into urine and a measured area of the strip is placed on the surface of a solid culture medium, such as MAST C.L.E.D. Medium (DM110) or MAST C.L.E.D. with Andrade’s Indicator (DM111). Using strips of standard paper the number of transferred organisms remains constant. Other studies⁵ ⁶ have confirmed the reliability of the paper strip method when compared with conventional time consuming quantitative culture methods. The paper strip method needs no ancillary equipment and involves less time, labour and materials than other methods while maintaining a consistent reliability. MAST BACTERURITEST STRIPS have been developed to facilitate the performance of this method.

Description

MAST BACTERURITEST STRIPS are 7.5cm long by 0.6cm wide, marked and prefolded 1.2cm from one end. They are sterile and packed with the prefolded end down to simplify handling.

In Use

Urines should be sampled with a minimum of delay after collection unless a reliable method of preservation, such as refrigeration, is employed. A MAST BACTERURITEST STRIP is dipped to the mark in the thoroughly mixed sample of urine, removed, and any excess urine is allowed to be absorbed. The area of the strip below the mark is applied to the surface of a well-dried C.L.E.D. or C.L.E.D. with Andrade’s Indicator agar plate. The whole of the inoculum area should be in contact with the surface of the medium and be left in contact for 2-3 seconds before removing. Up to fourteen urines may be conveniently inoculated onto a 9cm petri dish.

The culture dish is then incubated overnight and the number of colonies growing in the inoculated area is counted. Leigh and Williams, with whose strips the MAST BACTERURITEST STRIP may be closely compared, proposed two colony count levels as representing 100,000 or more organisms per ml; a colony count of 25 or more bacilli, and one of 30 or more for cocci. It is suggested that a colony count of 20 or more, regardless of type, should be considered significant. Bacterial populations of fewer than 10,000 organisms per ml give few colonies and frequently give no growth.
Packaging and Ordering Details

200 sterile MAST BACTERURITEST STRIPS are supplied in each aluminium screwcapped container. The standard pack is 5 x 200 strips.

Order code: BTR1

References