

MUL+DO: A multicomponent index for the quick diagnosis of peritonitis in peritoneal dialysis patients [MUL+DO: índice multicomponente para el diagnóstico rápido de peritonitis en pacientes de diálisis peritoneal]

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Peritoneal infection is a common problem that has a negative impact on the survival of patients and the technique. The early administration of peritoneal infection treatment reduces complications. The goal of this study is to propose a multicomponent index (MUL+DO) for the quick and efficient diagnosis of peritoneal infection. We selected a training cohort of peritoneal effluent samples which were analyzed by Multistix® 10 SG Siemens test strips for leukocyte detection. Then, each sample was examined according to the gold standard: number of leukocytes, polymorphonuclear percentage and microbiological culture. We constructed the MUL+DO index by adding one point to the MULTISTIX [0-1-2-3] modified chromatic scale if the patient reported pain. The MUL+DO index ranged from 0 to 4. A model validation cohort was then created. MUL+DO was applied to each sample and leukocytes and polymorphonuclear percentage were also assessed. The training cohort ultimately included 134 samples, 34 of which with infection (25.4% [17.6-33.1]). Samples with a MUL+DO value greater than 1 presented a sensitivity and specificity of 100%. The validation cohort included 100 samples with 16 infections (16% [8.3-23.7]). Assuming a sample with a MUL+DO value greater than 1 to be positive, we obtained a sensitivity of 100% and a specificity of 95.2%. The MUL+DO index applied to the training cohort showed a perfect separation of the positive and negative populations. All positive patients presented a score ≥ 2 . In the validation cohort, the MUL+DO reported a sensitivity of 100% and a specificity of 95.2%. © 2017 Sociedad Española de Nefrología

Diagnosis

Peritoneal dialysis

Peritonitis

Urine test strip

adult

Article

clinical article

clinical practice

cohort analysis

diabetes mellitus

diagnostic test

diagnostic test accuracy study

diagnostic value

female

hemodialysis patient

human

human cell

leukocyte count

male

middle aged

multicomponent index

peritoneal dialysis

peritoneal fluid

peritonitis

self report

sensitivity and specificity

validation process

leukocyte

microbiology

peritonitis

statistical model

test strip

time factor

hemodialysis fluid

Female

Hemodialysis Solutions

Humans

Leukocytes

Male

Middle Aged

Models, Statistical

Peritoneal Dialysis

Peritonitis

Reagent Strips

Time Factors