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BATTERIOLOGIA

COMPARISON OF TWO ASSAYS FOR THE IDENTIFICATION OF MYCOPLASMA HOMINIS AND UREAPLASMA SPP FROM CERVICAL SWABS.

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INTRODUZIONE

Mycoplasma spp and Ureaplasma spp infections have been associated with different pathological outcomes in the female population: vaginosis, pelvic inflammatory disease and complications of pregnancy. Reliable diagnostics could be useful to promptly begin an effective therapy. The purpose of this work is to compare two assays for the detection of Mycoplasma hominis and Ureaplasma spp: a cultural assay (Mycoplasma IST2, Biomerieux) and a molecular assay (AnyplexTM II, STI-7 Detection kit, Seegene).

METODI

From January 2015 to the end of January 2018, 2449 cervical swabs were collected from 2219 women. They were both culturally and molecularly analysed.
The cultural assay was performed in accordance with the kit's instructions.
The DNA was extracted by an automated method (Magna Pure Compact, Roche) and then amplified by a Real-Time multiplex PCR in accordance with the kit's instructions, on a Bio-Rad CFX-96 thermocycler (Bio-Rad Laboratories).
The comparison between the results of the two assays was assessed by the McNemar's test implemented in R (version 3.5.2).

RISULTATI

Mycoplasma hominis was identified in 102 samples (4.16%) by the culture test and in 101 samples (4.12%) by the molecular test (p value = 1) with an overall concordance of 97.6%. Sensitivity, specificity, positive and negative predictive values of culture were 68.3%, 98.6%, 67.6% and 98.6% respectively.
Ureaplasma spp was culturally and molecularly detected in 496 (20.25%) and 560 (22.86%) samples (p value <0.001), respectively, with a concordance of 94.6%. From the 560 samples positive for Ureaplsma spp by molecular method, Ureaplasma parvum was identified in 510 samples (91.07%) and Ureaplasma urealyticum in 79 samples (14.10%). The Mycoplasma IST2 kit showed a sensitivity, specificity, positive and negative predictive values of 81.3%, 97.8%, 91.7% and 94.6% respectively.

CONCLUSIONI

The Mycoplasma IST2 kit resulted less sensitive than the molecular test and, furthermore, it is not able to discriminate between Ureaplasma parvum and Ureaplasma urealyticum. On the other hand, it is able to provide an in vitro pharmacosensitivity assessment, and this suggests to combine its use with another assay that allows to selectively identify the different Ureaplasma species.