28th ECCMID EUROPEAN CONGRESS OF CLINICAL MICROBIOLOGY AND INFECTIOUS DISEASES
Madrid, Spain
21 – 24 April 2018

P0845 Rapid multiplex PCR FilmArray ME panel: a monocentric prospective performance study

Benoit Visseaux*[1], Jean-François Timsit[2], Enrique Casalino[3], Alexandre Storto[4], Houria Ichou[4], Laurence Armand-Lefebvre[5], Sandrine Houze[6], Damien Van-Gysel[7], Romain Basmaci[8], Diane Descamps[4], Yazdan Yazdanpanah[9], Xavier Duval[10 11], Nadhira Fidouh[4]

[1]Hopital Bichat Claude Bernard - APHP, Laboratoire de Virologie , PARIS, France, *[2]Hopital Bichat Claude Bernard - APHP, Réanimation Médicale et Infectieuse, PARIS, France*, *[3]Hopital Bichat Claude Bernard - APHP, Service d'Accueil des Urgences, PARIS, France*, *[4]Hopital Bichat Claude Bernard - APHP, Laboratoire de Virologie, PARIS, France*, *[5]Hopital Bichat Claude Bernard - APHP, Laboratoire de Bactériologie, PARIS, France*, *[6]Hopital Bichat Claude Bernard - APHP, Laboratoire de Parasitologie-Mycologie, PARIS, France*, *[7]Hopital Bichat Claude Bernard - APHP, Département d'Information Médicale, PARIS, France*, *[8]Hopital Louis Mourier - APHP, Pédiatrie générale et urgences, Colombes, France*, *[9]Hopital Bichat Claude Bernard - APHP, Service de Maladies Infectieuses et Tropicales, PARIS, France*, *[10]Hopital Bichat Claude Bernard - APHP, Centre d'Investigations Cliniques, PARIS, ,* *[11]Hopital Bichat Claude Bernard - APHP, Centre d'Investigations Cliniques, PARIS, France*

Background: The FilmArray ME panel (bioMérieux) is a new rapid multiplex PCR (mPCR) panel allowing detection of the most current pathogens in meningitides and encephalitis within one hour with a low CSF volume. This objective of this study is to assess the performances of this test in comparison with usual methods.

Materials/methods: From January to September 2017, patients with a meningitis and/or encephalitis suspicion at Bichat hospital and with a CSF sample were prospectively and concomitantly tested with the usual assays (UA) and the FilmArray ME panel (FA), bioMérieux. The final diagnosis retained by the physician was retrieved.

Results: 511 CSF from 511 patients were tested with FA and usual virology (n=506), bacteriology (n=353) and mycology methods (n=85). FA global positivity rate was 48/535 (9.4%) versus 29/535 (5.4%) for UA. FA identified 19 enterovirus, 9 VZV, 6 HSV-2, 3 HSV-1, 3 CMV, 2 HHV-6, 2 H.influenza, 2 S.agalactiae, 1 N.meningitidis, 1 E.coli, 1 C.neoformans/gattii. Global concordances with UA were 98.6, 98.9 and 98.4% for virology, bacteriology and mycology, respectively. Regarding virology, 1 VZV and 1 enterovirus were identified by UA but not FA and clinically retained. 2 HHV-6, 1 HSV-1, 1 VZV and 1 CMV were identified by FA but not by UA. Among them 1 VZV and 1 HSV-1 were clinically retained. For bacteriology, 2/2 purulent meningitis were identified by FA and UA. The 4 additional bacteria were identified by FA including one with purulent meningitis. Regarding mycology, the C.neoformans identified by FA was neither detected by UA nor clinically relevant. Among the 19 CSF with available cellularity and a positive viral result, 9 presented <10 elements/mm3 and encephalitis diagnosis was retained for 4 of them.

Conclusions: A good overall concordance was observed with the FilmArray ME panel in clinical use. A few discrepancies exist and impose to carefully interpret the results with all associated clinical and biological parameters. In strong suspicion of CSF viral infection, mPCR panels should be used

independently of a low number of elements in CSF. Clinical impact and cost-effectiveness studies are needed to better define the target populations for this mPCR panel.