First case in Italy of acquired resistance to oseltamivir in an immunocompromised patient with influenza A/H1N1v infection.

Campanini G, Piralla A, Rovida F, Puzelli S, Facchini M, Locatelli F, Minoli L, Percivalle E, Donatelli I, Baldanti F; Surveillance Group for New Influenza A/H1N1v Investigation in Italy.

Abstract

A pandemic influenza A/H1N1v strain with the neuraminidase H274Y mutation was detected in nasal secretions of a 2-year-old leukemic patient with influenza-like illness after 18 days of treatment with oseltamivir. At baseline, no drug-resistant virus was found, while 4 days after treatment initiation a mixture of wild-type and mutated virus was detected. After treatment interruption, the wild type influenza virus re-emerged and became prevalent in nasal secretions after a few days, suggesting the lower fitness of the mutated virus strain. The patient slowly improved concurrently with a decrease in virus load, which resulted negative 42 days after diagnosis. No other drug-resistant influenza A/H1N1v virus strains have been detected in Italy (up to the end of November 2009) since the first case of the novel A/H1N1v virus was identified in the country (May 2009).

Multicentric evaluation of two chemiluminescent immunoassays for IgG and IgM antibodies towards Rubella virus.

Portella G, Galli C; Multicenter Italian Group for Hospital ToRC evaluation.

Collaborators (41)
Abstract

BACKGROUND:

Screening and diagnosis of Rubella virus infection rely on testing for specific IgG and IgM. Immunoassays may yield different IgG results especially at low values, with difficulties in the evaluation of protective immunity. IgM levels decrease until negative a few weeks or months after acute infection, but individual and assay-related variability is common.

OBJECTIVES:

To evaluate the performance characteristics of the automated immunoassay for Rubella IgG and IgM on the Abbott ARCHITECT.

STUDY DESIGN:

Twelve laboratories from 7 different Italian regions assayed 6268 routine specimens, comparing qualitative results for IgG and IgM and quantitative for IgG with other widespread immunoassays. Prevalence data for IgG were disaggregated by patients’ group and by age in order to evaluate vaccination coverage.

RESULTS:

Qualitative concordance for IgG was 97.3% vs. Abbott AxSYM, 95.0% vs. DiaSorin Liaison and 97.7% vs. Behring Enzygnost; ARCHITECT was more sensitive than Liaison and equivalent to the other assays, with a good correlation of IU/mL values with AxSYM (r = 0.89). IgG prevalence was 87.1% among pregnant women, indicating a sub-optimal vaccine coverage. IgM reactivity was 1%, except in one site due to an outbreak. IgM concordance was 97.5% vs. Abbott AxSYM, 97.9% vs. DiaSorin Liaison and 97.7% vs. Behring Enzygnost; ARCHITECT was more specific than AxSYM.

CONCLUSIONS:

Our study confirms that in Italy Rubella vaccination coverage among pregnant women is insufficient. The new Rubella IgG and IgM assays on the ARCHITECT analyzer showed a good performance in comparison with other commercial methods. The results obtained and the good precision, indicate their suitability for routine testing.

Widespread carbapenem resistant Acinetobacter baumannii clones in Italian hospitals revealed by a multicenter study.


Collaborators (18)


Source

S.C. Microbiologia, A.O. Arcispedale Santa Maria Nuova, Reggio Emilia, Italy.
edoardo.carretto@asmn.re.it

Abstract

Population diversity, susceptibility to antibiotics including carbapenems of 277 Acinetobacter baumannii strains collected in 17 Italian hospitals over a 6-months' period was assessed. Semi-automated rep-PCR was used for screening strains for genotypic relatedness. AFLP analysis and MLST were used as definitive methods for strain, species and/or clone identification. Among the 277 strains, 49 rep-PCR types were distinguished with four types (1-4) predominant, indicating both intra- and interhospital spread. AFLP analysis allowed to distinguish 51 types and largely confirmed rep-typing results. Isolates with predominant rep-types 1 and 2 (in 3 and 9 hospitals) were allocated to EU clones I and II, respectively. Rep-type 3 (8 hospitals) belonged to a new clone ("Italian clone"). Rep-type 4 was found in 2 neighbouring hospitals. Two isolates from 2 locations belonged to EU clone III. Twenty-five isolates were identified by AFLP-analysis to A. pittii, emphasizing misidentification by phenotypic methods. MLST confirmed clone identification by AFLP; demonstrating also that the "Italian clone" was ST78, recently detected in different Mediterranean countries. Multidrug resistance, defined as resistance to 9 out of the 11 drugs tested, was common in 10 out of 17 hospitals. The high prevalence of carbapenem resistance was associated with OXA-58 found in 9 out of the 10 hospitals. A high percentage of noted very major errors in susceptibility testing, especially for amikacin and meropenem, was probably due to heteroresistant strains. The occurrence of carbapenem and multidrug resistance in A. baumannii was mainly confined to a limited number of clonal lineages of A. baumannii.


Presence and indigenous nature of Lyme disease in southern Italy.

Lyme disease is very common in the countries of the northern hemisphere. In Italy it is endemic in some regions of the northern part of the country and it is more frequent during summer. In Calabria (south Italy) no cases have been reported. To document the presence and indigenous nature of Lyme disease in this territory we conducted a study from 1999 to 2002. We defined as indigenous cases those with erythema migrans with the following characteristics: dimensions equal to or greater than 5 cm; localization on an area of the skin where there was a tick bite; appearance between 4 and 30 days after the tick bite; appearance in patients who had not resided out of Calabria in the previous 3 months. We found 23 patients with the necessary characteristics to be defined indigenous cases. Since 15 of these cases (65.2%) were observed in the October - December trimester and no case was found in the July - September trimester, we suspect that in Calabria the disease follows a seasonal distribution which differs with respect to countries where it is historically endemic.


[Polyomavirus BK nephropathy in renal transplant: 2 cases with different clinical expressions and review of the literature].

[Article in Italian]


Source
U.O. Nefrologia, Dialisi, Trapianto, Azienda Ospedaliera Annunziata di Cosenza, Italy.
rbonofi@tin.it

Abstract

INTRODUCTION:
Polyomavirus BK nephropathy is emerging as a significant cause of interstitial nephritis and allograft dysfunction (1-2).

CASE REPORT:
Two patients with renal transplants from cadaveric kidneys were treated with Tacrolimus plus Mycophenolate Mofetil (MMF) and Cyclosporine plus MMF, respectively. Their renal function
gradually deteriorated eight to twelve months after the transplant. The renal biopsy of the first patient showed signs of significant interstitial tubulite, which necessitated the anti-rejection therapy with intravenous steroid pulses. After the pulses there was an additional dramatic increase in plasmatic creatinine, which suggested a reevaluation of the kidney biopsy because of suspected Polyomavirus BK (BKV) nephropathy. In fact, after a more careful review, the suspicion of BKV infection was confirmed by the presence of intranuclear inclusions of tubular epithelium cells and marked denudation of the tubular basal membrane. The subsequent screening in both cases confirmed the presence of decoy cells in the urine, while the immunohistochemical analysis of the renal biopsy was strongly positive for the SV40 antigen. Our diagnosis was that of interstitial nephritis due to Polyomavirus BK that, in the first patient, was expressed by more aggressive clinical progress, probably due to enhanced immunosuppression from incorrect diagnosis of the interstitial rejection. The pre-transplant clinical outcome of the first patient was characterised by proteinuric nephropathy without any histological confirmation. Furthermore, we observed abundant pre-transplant residual diuresis and glucose intolerance. All these elements led us to hypothesise that native kidneys could have a fundamental role as viral reservoirs.

**CONCLUSION:**

Even though we reconfirm the decisive role of the immunosuppressive therapy and of the donor’s kidney as the fundamental causes of Polyomavirus reactivation, we believe that it cannot be the result of a possible active role by the native kidney. In fact, as already noted, the SV40 genome is important in the pathogenesis of focal gomerulosclerosis. Furthermore, reports of polyoma nephropathy in not-yet-transplanted patients could accredit the role of the native kidneys as important viral reservoirs capable of inducing nephropathy in renal transplant patients.

**A comparative evaluation between real time Roche COBAs TAQMAN 48 HCV and bDNA Bayer Versant HCV 3.0.**


**Source**

UOC Microbiologia e Virologia, PO Annunziata AO Cosenza. gircri@virgilio.it

**Abstract**

The HCV virus is a common human pathogen made of a single stranded RNA genome with 9600nt. This work compared two different commercial methods used for HCV viral load, the bDNA Bayer Versant HCV 3.0 and the RealTime Roche COBAS TaqMan 48 HCV. We compared the reproducibility and linearity of the two methods. Seventy-five plasma samples with genotypes 1 to 4, which represent the population (45% genotype 1; 24% genotype 2; 13% genotype 3; 18% genotype 4) were directly processed with the Versanto method based upon signal amplification; the same samples were first extracted (COBAS Ampliprep - TNAI) and then amplified using RealTime PCR (COBAS TaqMan 48). The results obtained indicate the same performance for both methods if
they have genotype 1, but in samples with genotypes 2, 3 and 4 the RealTime PCR Roche method gave an underestimation in respect to the Bayer bDNA assay