swab) nucleotide difference in VP1 compared with the Sabin strain. These results confirm the presence of an iVDPV1. The sequences of 5ĭNCR showed the 480 nucleotide change, proving the reversion of the sabin strain to the infectivity. These findings were sent to the National Program in less than 15 days.

Results: After the detection of AFP notification was sent to the field, Epidemiology actions were made as in all cases. In the investigation three different locations were established as the child residence. All of them were visited and vaccination of all children under 18 years old was done. A national and international alert were sent Active community surveillance was made and contact and environmental samples were collected and sent to the Regional Lab. In none of them the iVDPV 1 was detected. Four serial samples from the case were taken each month, in all of them the same iVDPV1 was isolated.

Conclusion: The country has sustained the surveillance of AFP through 22 years based on the collaborative work between the laboratory and the epidemiologists. No other cases appeared although the vaccine coverage in one of the district was very low. As consequence of this finding a national vaccination campaign was made. Although poliomyelitis is a threat to the region Argentine is ready to face it.

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83.026

Yellow fever vaccine (YFV) and events supposedly attributable to vaccination or immunization (ESAVIs): Argentina's experience

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Background: The acronym ESAVI defines any clinical picture after vaccination chronologically related to its use. Further analysis of the event determines the role of the vaccine in its causality. In the case of YFV, three categories of severe adverse events are described: anaphylactic reactions, YF neurotropic disease (YFV-AND), viscerotropic disease (YFV-AVD). YFV is included in Argentinaĭs national immunization program for use in population older than one year of age in regions with transmission risk. It is also prescribed to travelers to endemic zones and can be required upon International Health Regulation allowance. We describe the clinical, epidemiological and laboratory profile of ESAVIs in the context of an extraordinarily increased YFV administration in Argentina in 2008, due to reported fatal cases involving humans and monkeys in risk zones.

Methods: This is a descriptive study encompassing the period between January and December, 2008. Complete YFV-ESAVI forms were included, after the expert committee evaluations. Adverse events were grouped using current PAHO/WHO classification. Samples (serum, CSF and liver biopsies) were processed at the INEVH through standard techniques.

Vaccine shots: 1,806,400.

Results: Fifty ESAVIs were included:

Classification	Mild-Moderate	Severe
1	12	2
2[a]	-	-
2b	23	9
3	-	1

The 2b severe ESAVIs consisted of eight YFV-AND and one YFV-VD, whereas the two severe type 1 ESAVIs consisted of one urinary sepsis and a sepsis-like case without final diagnosis. The type 3 ESAVI was an ADEM.

Neither reactions nor programmatic errors were reported.

YFV-VD rate was 0.5/1.000.000 doses; YFV-AND 4.4/1.000.000 doses No particular vaccine lot was related to ESAVIs. Global incidence of ESAVIs coincides with the heretofore published data. However, some of the authors knew of more clinically compatible YFV-AND and VD non-studied cases, and there is strong suspicion of underreporting.

Conclusion: An accurate surveillance system and a reference laboratory are fundamental for ESAVIs study. Detailed reports for valid conclusions and opportune actions, plus a multidisciplinary work for rigorous analysis is needed. A carefully managed risk-benefit balance when prescribing YFV alongside with updated epidemiological information for accurate guidance is critical.

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83.027

Genetic characterization of *Mycobacterium bovis* BCG Mexico 1931

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Background: BCG vaccine is the only preventive measure against tuberculosis. At least two genomes from BCG, Pasteur and Japan, have been described. Evolutionary schemes establish by DU2 and other markers situated BCG Japan and Pasteur into group I and IV from genealogy of BCG vaccines, respectively, classified as early and late strains. Some BCG such as Mexico 1931 is not included in any comparative studies based on phenotypic, genotyping, immune response

and drug resistance. Our aim was to characterize by full sequence BCG Mexico 1931 for using in the new develop vaccine.

Methods: The sequence of BCG Mexico 1931 was performed with 2X pyrosequencing method. BCG Mexico 1931 genetic profile was performed by multiplex PCR and PFGE. The multiplex PCR was performed to detect RD and DU regions in strains. The reference BCG strains used in this study were Pasteur 1173P2, Phipps, Tice and Danish 1331.

Results: The circular chromosome at 99.8% coverage of BCG Mexico 1931 was 4 350 386-bp, its analyses confirm the RD1, RD2, nRD18 absence and the presence of duplication DU2 group IV described by multiplex PCR. The comparison of BCG Pasteur1173P2 genome sequence with BCG Mexico 1931 showed differences between strains, including the presence of RD14, SNPs and the absence of DU1. In addition, three new RD regions of 53, 655 and 2847 bp were uncovered. The comparison of profiles obtained by PCR multiplex showed that BCG Mexico 1931 profile was identical to BCG Phipps and Tice, with the lost of RD1, RD2, nRD18 and presence of DU2 group IV. PFGE was performed with *AsnI*/*DraI* enzymes, the analyses detected 18/12 fragments in BCG Danish 1331 and Mexico 1931, 17/12 in Pasteur 1173P2, 15/10 in Phipps and 14/10 in Tice, respectively. Interesting, the restriction pattern with *AsnI* showed the presence of 220 kb fragment only in BCG Mexico, Tice and Phipps.

Conclusion: The BCG Mexico 1931 showed a close relation with BCG Phipps and Tice, strains situated into group IV from genealogy of BCG vaccines. However, in diverse studies these strains shown differences on the induction of immune response.

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83.028

Pneumococcal vaccination - is hyporesponsiveness a problem?

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Background: Several studues in the past have demostrated that the pneumococcal polysaccharide vaccine (PPV 23) will induce hyporesponsiveness in vaccinated patients over a long time period. The duration of this effect and the impactv on a second vaccination with a conjugated vaccine (PCV 13) after at least 3 years is not known.

Methods: To address these open questions we investigated 55 persons (30 males, age between 68 and 87 years), who had a first PPV 23 - vaccination 3 - 8 years before and received a second vaccination with PCV 13. Immediately before and 4 - 6 weeks after PCV 13 vaccination blood specimen were taken and antibodies to 13 individual poysaccharides (1,3,4,5,6A,6B,7F,9 V,14,18,19A,19F,25F) were determined by a validated enzyme-linked immunosorbent assay.

Results: 3 - 8 years after PPV 23 vaccination antibody concentrations were low but in 11 out of 13 serotypes still above 1,0 !g/ml (the assumed protection level for adults); only serotypes 3 and 23F had mean concentrations (+/- SD) of 0,66+/- 0,38 !g/ml and 0,57+/- 0.39 !g/ml. 4 - 6 weeks after vaccination with PCV 13 all serotypes showed an significant increase in antibody concentrations; however, a great response variability between the different serotypes was measured with small antibody increases in serotype 3 and high concentrations in serotypes 4, 5,7F,19A and 19F.The tolerance of vaccination with PCV 13 was excellent.

Conclusion: The results of this study demonstrate that a first PPV 23 vaccination has only limited impact on a second vaccination with a new conjugated pneumococcal vaccine(PVP13) 3 - 8 years later. Hyporesponsiveness was not a major problem in this study. However, these results have to be confirmed in a study with a greater number of elderly patients.

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Virology and Viral Infections (Non-HIV) (Poster Presentation)

84.001

Intravenous immunoglobulin manufactured from selected Chinese donors protects mice from lethal Enterovirus 71 infection

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Background: Enterovirus 71 (EV71) has emerged as a significant cause of acute encephalitis and paralysis in China, resulting in hundreds of deaths in young children since 2006. Passive transfer of intravenous immunoglobulin (IVIG) from Chinese donors has been associated with reduced mortality in children with severe EV71 infections. The anti-EV71 neutralization antibodies in Chinese IVIG products may contribute to the protection from EV71 infection.

Methods: A modified high-throughput microneutralization assay was performed to screen for plasma units containing high titer (>100) anti-EV71 antibodies from Chinese plasma donors. Positive units were then pooled and processed into pharmaceutical grade EV71-specific IVIG (EV71-IVIG). Different doses (0.1 to 5 mg) of EV71-IVIG and commercial IVIG were administered following lethal EV71 infection in sucking mice, respectively, according to the specific experimental protocol. Mice were monitored daily for body weight and mortality.

Results: About 10% of the plasma units from Chinese plasma donors were selected to produce EV71-IVIG. *In vitro* neutralization assays showed that the anti-EV71 antibodies titer (>1024) in EV71-IVIG preparations was 10-fold higher than that in commercial IVIG preparations. Full protection was archived when the infected mice were treated with EV71-IVIG, while similar treatments using commercial IVIG had no protective effect. Recovery of the infected mice was dependent on the dose and time of IVIG administration.

Conclusion: These results demonstrated that IVIG with higher titer (>1024) neutralization antibodies conferred protection against lethal EV71 challenge in an animal model. This finding also suggested that blood from selected donors in EV71 endemic regions can improve the potency of IVIG and