Background Prothrombotic risk factors (PRF) are suggested to be involved in the pathogenesis of PAIS. However, most of published studies are retrospective, they vary in the PRF tested and parents are not usually investigated.

Objective To determine the impact of parental and infant thrombophilia on neonatal cases diagnosed of PAIS in a prospective case-control study.

Methods Factor V (G1691A mutation), prothrombin G20210A variant, MTHFR C677T genotype, antithrombin, protein C, protein S, lipoprotein (a), homocystein (Hcy) and anticardiolipin antibodies were investigated in 45 infant-parent pairs with PAIS and in 85 controls. Blood samples were drawn within the first week of life.

Results All thrombophilic factors investigated were similar or even less frequent among patients with PAIS and their parents compared to controls. The most frequent PFRs were Hcy > 11 and MTHFR homozygosity in cases (7.5% and 5.3%, respectively) and in controls (24.4% and 13.1%, respectively). Thirteen neonates diagnosed of PAIS (28.9%) had at least 1 PFR, compared to 39 subjects (43.3%) in the control group (OR/95% CI, 0.51/0.23 to 1.10) (p = .617). In 8 infants with PAIS (51.1%) were positive for thrombophilia antibodies, compared to 49 (55.7%) controls (p = .878). Twenty three mothers of infants with PAIS (51.1%) were positive for thrombophilia markers, compared to 49 (55.7%) controls (p = .617). In 8 mother-infant pairs (17.8%), at least 1 PFR could be identified for either mother or infant, compared to 19 controls (21.6%).

Fifteen neonates with stroke (33.3%) had at least one PFR compared to 19 controls (21.6%). Thirteen neonates with PAIS (28.9%) had at least 1 PFR, compared to 39 subjects (43.3%) in the control group (p = 0.005).

Conclusion Our data do not indicate that PF do not appear to play a major role in PAIS.

Background Perinatal factors (PF) have been implicated in the pathogenesis of PAIS. Hypoxia has been suggested to be involved as a potential cause of AIS although prospective case-control studies are still warranted.

Objective To determine the impact of PF on neonatal cases diagnosed of PAIS in a prospective case-control study.

Methods 45 neonates were diagnosed of PAIS within four weeks of life and 85 controls were investigated for the following PF: arterial cord pH, arterial cord pH, arterial cord pH, arterial cord pH, arterial cord pH, arterial cord pH, arterial cord pH, arterial cord pH, arterial cord pH, arterial cord pH, arterial cord pH, arterial cord pH. The univariate analysis indicated the following associations with PAIS: emergency caesarean section (48.9% vs 14.8%; p < 0.001); Apgar score at 1 and 5 min, arterial umbilical cord pH <7.0 and <7.20, and need of advanced resuscitation.

Results The univariate analysis indicated the following associations with PAIS: emergency caesarean section (48.9% vs 14.8%; p < 0.001); Apgar score at 1 min < 7 (22.2% vs 4.6%; p = 0.003) and < 5 (15.6% vs 1.1%; p = 0.002); arterial cord pH, mean ± SD 7.19 ± 0.12 (CI95% 7.15,7.23) in infants with PAIS compared to 7.25 ± 0.1 (7.23,7.27) in controls (p = .005); arterial cord pH <7.20 (45.2% vs 17.8%; p = 0.006).

A multivariate analysis did not show any independent factor associated to PAIS, except for arterial cord pH < 7.20 (OR 2.89, CI95% 1.01, 8.31). Emergency caesarean section and Apgar score <5 at 1min, showed a tendency to be associated with PAIS but without statistical significance: OR 2.61 (95% CI 0.66, 10.2) and 10.02 (CI95% 0.46, 215.8).

Conclusion Our data indicate that PF do not appear to play a major role in PAIS.

Background PG is a commonly used excipient contained in several medications to control neonatal seizures (Phenobarbitone (Phb) (79%) Phenytoin (Ph) (40%) and Clonazepam). On MRS the appearance of a doublet at 1.1 ppm in some spectra is attributed to PG. The lower safe level of short term exposure to PG