RESULTS: SK-N-FI<sup>NS1</sup> (MYCN-nonamplified/high H-RAS expression) cells had decreased RAS activity after NS1 induction with doxycycline (Figs. 1A, 1B). SK-N-FI<sup>NS1</sup> tumor-bearing mice that received doxycycline had delayed tumor formation (Fig. 1C) and growth (Fig. 1D). Patients with elevated H-RAS expression neuroblastoma tumors have worse overall survival (Fig. 1E). GSEA identified top enriched gene sets (Fig. 1F) and upregulated genes (Figs. 1G, 1H) in MYCN-non-amplified/high H-RAS human neuroblastoma tumors.

CONCLUSION: Patients with high H-RAS neuroblastoma have worse overall survival. RAS inhibition delayed tumor formation and growth in MYCN-nonamplified/H-RAS high neuroblastoma tumors. GSEA can identify the upregulated genes in these tumors.

Figure 1(A). SK-N-FI cells with stable DOX-inducible NS1 expression were treated +/- DOX for 2 days then lysed. Equivalent amounts of lysate were incubated with GST-RAF RBD to pulldown active RAS (top panel). Total RAS input and NS1 expression shown in bottom 2 panels. NS1 expression decreased RAS GTP levels. (B) NS1 expression induced by DOX reduced proliferation of SK-N-FI cells (C) SK-N-FI-NS1 tumor establishment in which animals treated with DOX had delayed tumor formation. (D) SK-N-FI-NS1 tumors treated with DOX demonstrated delayed growth. (E) Overall survival of the HRAS high vs HRAS low cohort. Patients with high H-RAS expression exhibited significantly worst overall survival compared to those with low H-RAS expression (F) Top 20 enriched gene identified with GSEA (G/H) Heat map and genes corresponding to top upregulated genes in HRAS high/MYCN low NBL.

Relationship Between Comorbidities and Child Abuse: A National Trauma Data Bank Study
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INTRODUCTION: Child abuse is a major cause of mortality in the pediatric population and certain vulnerable populations might be at particularly increased risk. Earlier limited studies have suggested physical disabilities and developmental delay might be risk factors for child abuse. This is the first large-scale study using data from a national registry to identify whether the presence of comorbidities place certain children at higher risk for abuse.

METHODS: Patients 1 to 17 years old were identified from the National Trauma Data Bank (NTDB) for 2010-2014. ICD-9-CM codes were used to identify children of abuse and compared with pediatric trauma patients. The presence of comorbidities and clinical outcomes were analyzed using descriptive statistics and chi-square analyses.

RESULTS: From 2010-2014, 540,508 patients were included in the NTDB registry. Children with documented comorbidities were at greater risk of child abuse compared with children without documented comorbidities (odds ratio [OR] 1.24; 95% CI, 1.16 to 1.32; p < 0.001). Congenital anomalies, prematurity, functionally dependent health status, and liver disease were significantly more common among children of abuse (p < 0.05). The presence of liver disease placed children at the greatest risk for abuse (OR 9.35; 95% CI, 5.2 to 15.79; p < 0.05), followed by prematurity (OR 6.63; 95% CI, 5.45 to 8.05; p < 0.05), functionally dependent health status (OR 3.87; 95% CI, 2.73 to 5.48; p < 0.05), and congenital anomalies (OR 2.81; 95% CI, 2.26 to 3.50; p < 0.05).

CONCLUSION: Children with comorbidities are at significantly greater risk of experiencing child abuse compared with children without comorbidities. Further studies are needed to better understand the socioeconomic and caretaker stressors that contribute to these risk factors.

Figure 1. Comorbidities such as congenital anomalies, functionally dependent health status, liver disease, and prematurity are statistically significantly more common in children of child abuse (p<0.05).

Remote Ischemic Conditioning to Improve Splanchnic Perfusion and Prevent Necrotizing Enterocolitis in Premature Piglets
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INTRODUCTION: Inability to meet the metabolic demands of the gut contributes to the pathogenesis of necrotizing enterocolitis (NEC). Remote ischemic conditioning (RIC) establishes ischemic resistance in remote organs. We investigated whether RIC could improve splanchnic perfusion in response to the metabolic demands of feeding by increasing splanchnic tissue oximetry, as measured by abdominal near infrared spectroscopy (A-NIRS), and reduce the incidence and severity of NEC in preterm piglets.

METHODS: Preterm piglets were randomized to RIC treatment or control groups. Piglets in the RIC group underwent 4 cycles of