Title: Interdependence of clinical factors predicting cognition in children with tuberous sclerosis complex

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What is the topic?
TSC can be associated with delays in cognitive development. However, this is can be quite variable, leading to lack of information on the part of the physicians to counsel parents. If there were predictors that correlated with the child's intellectual capability, it would help parents and physicians to develop an individualized educational plan for the child.

What did the researchers hope to learn?
The researchers wanted to learn if there were any factors in early life that correlated with cognitive development in subjects with TSC.

Who was studied?
The study was done in 102 patients with TSC at a TSC center.

How was the study conducted?
This was a retrospective follow-up clinical database study, which means that the data was collected, and the researchers went back and analyzed it later. Patients were treated at a TSC center. The researchers collected data from the first two years of patients' lives. The data that was studied was genetic mutation data, information about epilepsy and seizures, and motor development. They wanted to see if any of these factors correlated with cognitive development.

What did the researchers find?
The factor that most reliably correlated with a decrease in cognitive functioning was the age when seizures started. Hence, if the child was older when seizures started, his (or her) intellectual equivalent was higher.

What were the limitations of the study?
This study did have a few limitations – it is possible that the sample of patients studied here were more severely affected, because they were at a university hospital. This would mean that the results of this study are not universally true for all patients with TSC. The bigger question that this study raises, however, is why the age of onset of seizures is an important predictor of intellectual capability in patients with TSC.

What do the results mean for you?
Cognitive development in TSC is variable and difficult to predict. It would be useful if parents, and physicians have guidance as to the trajectory of the child's cognitive capabilities. This study provides clues into this important question, and hopefully, can be used to develop individualized educational programs children with TSC.

This summary was written by Sloka Iyengar, PhD- a neuroscientist, science writer, and healthcare consultant based in New York (Jan 2017).