Medical Xpress

Black children overlooked in scar tissue disorder tests, study says

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An immune disease that can damage vital organs—and is supposedly rare in young people—is more common than previously thought among Black children, a study suggests.

Fresh insights into the disorder—which causes scar tissue to form on skin and internal organs—suggest that Black children are more likely to be affected than young people of other ethnicities.

Findings from the study could lead to improved and earlier diagnosis of the disease, the team says.

The condition—called systemic sclerosis—causes the body's immune system to attack connective tissues under the skin and around internal organs including the heart, lungs and kidneys.

The presumed rarity of the disease in children—which can be fatal when internal organs are affected—may be because most previous studies have mainly involved White patients, the team says.

Previous research has shown that Black people—especially women—are more likely to be affected by the disease than White people. Black people also tend to develop it at a younger age, but until now the extent to which children are affected was largely unknown, as most research has only involved adults.

A team from the University of Edinburgh worked with researchers at Zimbabwe's Asthma Allergy and Immunology Clinic to study the disease in people aged between one and 94. Teams from the University of Zimbabwe and the country's National University of Science and Technology were also involved.

They analyzed records of more than 4000 patients referred to the specialist clinic between 2013 and 2018. Of these, 240 patients with symptoms of systemic sclerosis tested positive for specific immune proteins—known as autoantibodies—which mistakenly attack a person's own tissues and organs.

Researchers found that one in five of these patients were less than 16 years old, of whom more than 90 per cent were Black. The average age of children with autoantibodies was less than eight years old.

The analysis also revealed that Black patients produce a different autoantibody to those seen in White patients. This suggests that current diagnosis criteria—which are based on markers identified in White people—underestimate the rate of the disease in Black people, the team says.

In light of their findings, researchers recommend that diagnostic criteria for the disease be extended to include symptoms seen in children and specific markers associated with Black people.

The study is published in the journal *Frontiers in Immunology*.

Professor Francisca Mutapi, of the School of Biological Sciences, who led the Edinburgh team, says that "our study is the first to report high numbers of systemic sclerosis cases in Black children. This emphasizes the need to address racial biases in our diagnostic tools to ensure that people of all ethnicities receive effective diagnosis and treatment. These findings adds to growing evidence that a lack of research involving women and people of color is one of the key reasons why they often experience worse health outcomes."

More information: Elopy N. Sibanda et al, Systemic Sclerosis in Zimbabwe: Autoantibody Biomarkers, Clinical, and Laboratory Correlates, *Frontiers in Immunology* (2021). DOI: 10.3389/fimmu.2021.679531

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