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Delhi researchers use AI for diagnosing asthma

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A group of researchers from Delhi's CSIR-Institute of Genomics and Integrated Biology (IGIB), Indraprastha Institute of Information Technology (IIIT) and AIIMS has been able to improve the diagnosis of childhood asthma and even identify three asthma subtypes.

The researchers have been able to correctly identify children with asthma and also the subtypes along with potential biomarkers using artificial intelligence (AI).

Researchers observed that children belonging to subtype 1 showed a typical signature of ammonia metabolite but had no family history of asthma. Subtype 3 had lower blood eosinophilia and elevated neutrophilia compared with the other two subtypes. Children belonging to this subtype had a stronger family history of asthma and suffered from more acute asthma episodes even when on treatment.

Subtype 2 had high eosinophil count but was otherwise similar to subtype 1, but very different from subtype 3.

The algorithm was able to differentiate the total nuclear magnetic resonance (NMR) spectrum of healthy children and those who had asthma. The algorithm has 80 per cent sensitivity and 75 per cent specificity in identifying children with asthma.