Adolescent Idiopathic Scoliosis: Fishy Tales of Crooked Spines

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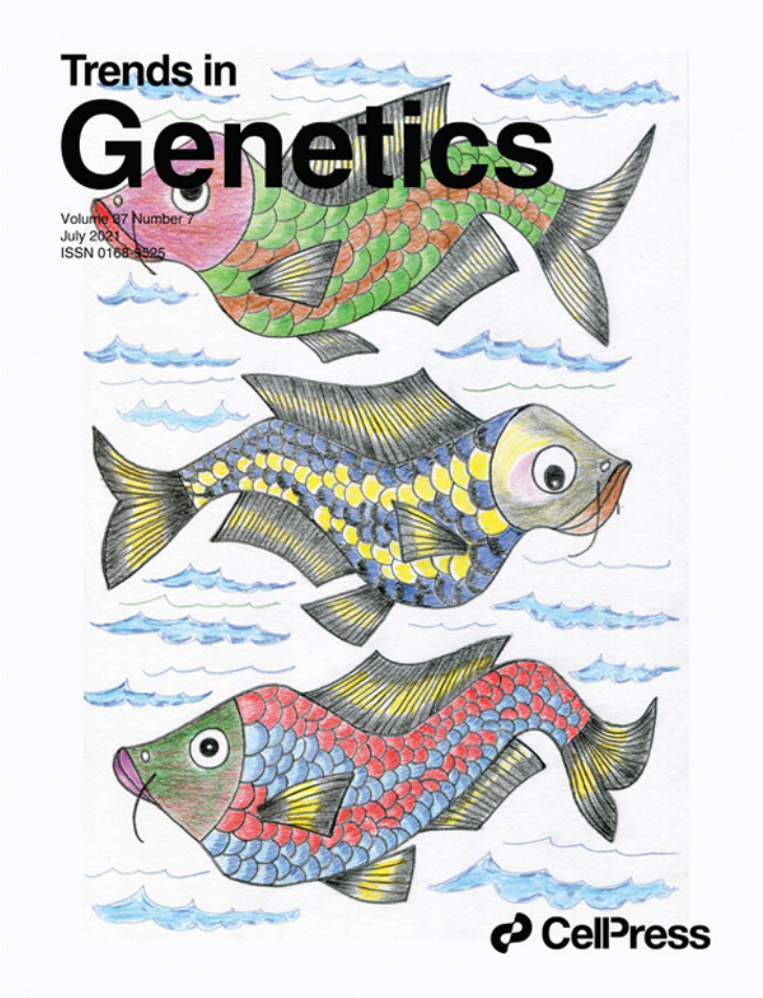

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Abstract

Adolescent idiopathic scoliosis (AIS) is a common skeletal disorder, characterized by abnormal spine curvatures. In zebrafish, cilia driven cerebrospinal fluid flow and urotensin II pathway activity are required for proper spine morphogenesis. Genetic studies with AIS patients now establish a conservation of the zebrafish findings in the etiology of the disease.

Figure:

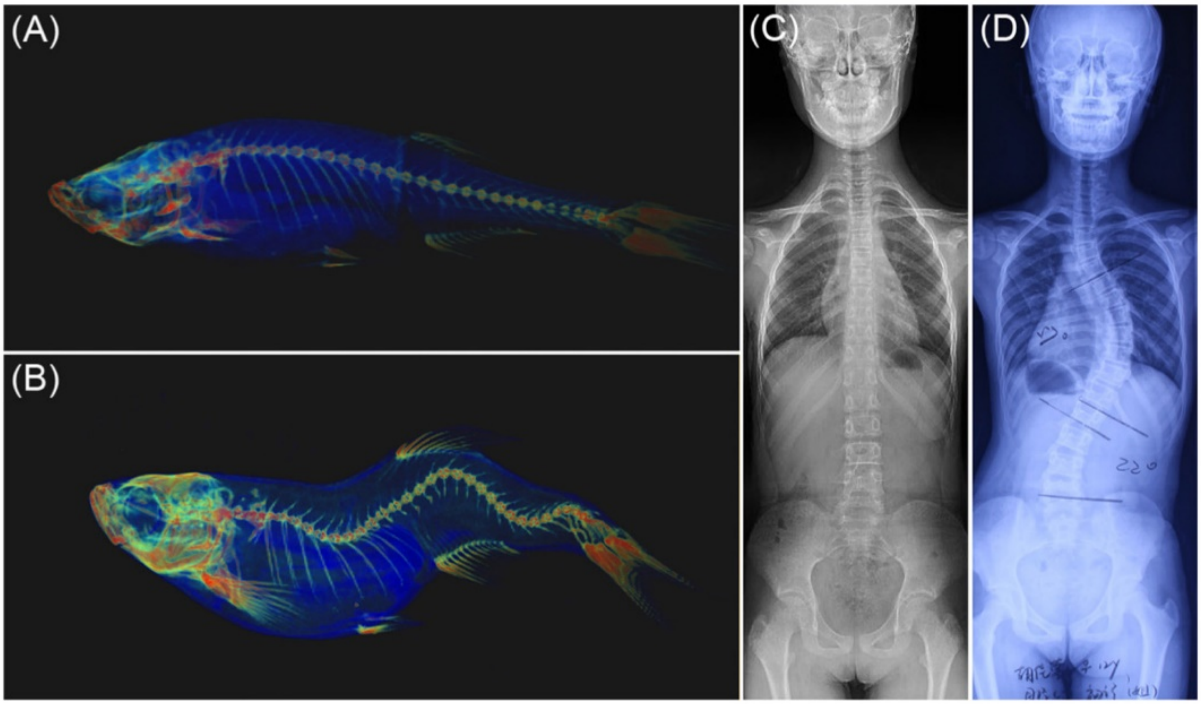

Figure legend: Mutations in the *uts2r3/UTS2R* Gene Cause Scoliosis in Zebrafish and Humans.

(A) Microcomputed tomography (CT) image of the skeleton of a wild-type zebrafish. (B) Micro-CT image of a zebrafish homozygous for mutations in *uts2r3*. (C) X-ray image of the skeleton of an unaffected individual. (D) X-ray image of the skeleton of an adolescent idiopathic scoliosis (AIS) patient with mutation in *UTS2R*. (A) and (B) courtesy C. Zhao; (C) and (D) courtesy L. Xu.