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Common anti–inflammatory could protect baby brains

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Administering ibuprofen immediately after birth may reduce brain damage in tiny growth-restricted babies, University of Queensland researchers have found.

The UQ Centre for Clinical Research's Dr. Julie Wixey said the drug could help reduce the incidence of serious long-term neurological problems in these babies.

"It's often difficult to diagnose babies at risk of being born too small during pregnancy," Dr. Wixey said.

"A baby born weighing below the tenth percentile for its gestational age is considered growth-restricted.

"These babies didn't grow enough in the womb because for some reason they didn't get enough nutrients and oxygen from the placenta."

About 32 million such babies are born around the world each year.

Dr. Wixey said there were currently no treatments to protect the developing brains of growth-restricted newborns.

"We previously found that inflammation is one of the key mechanisms involved in brain injury in growth-restricted babies, so we targeted the inflammation with the common anti-inflammatory drug ibuprofen.

"By administering it for three days after birth, we were able to reduce damage to brain cells."

Babies' brains are vulnerable as they develop, and underdevelopment in the womb can lead to a wide range of long-term problems.

"These can range from learning and concentration difficulties through to more serious conditions including cerebral palsy," Dr. Wixey said.

She said ibuprofen was already administered to premature babies to treat improperly closed heart valves.

"Since the same dosage is used to treat that condition, we hope to be able to translate the use of ibuprofen to growth-restricted babies following birth."

The research is published in *Frontiers in Physiology*.

More information: Julie A. Wixey et al. Ibuprofen treatment reduces the neuroinflammatory response and associated neuronal and white matter impairment in the growth restricted newborn. *Front. Physiol.* DOI: 10.3389/fphys.2019.00541

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