

Imaging may be more important than clinical examination in JIA

A EULAR task force has developed nine key points to consider around the use of imaging children with JIA in clinical practice, and a research agenda to help further the evidence.

INTRODUCTION

Juvenile idiopathic arthritis is more commonly referred to as JIA, and includes most types of arthritis seen in children. JIA is an inflammatory arthritis that causes pain and swelling in one or more joints. Some children develop long-term joint damage from JIA, but most get better and are able to live close to normal lives.

Imaging techniques are a non-invasive way to be able to look inside the joint. There are several imaging techniques available, including MRI (magnetic resonance imaging), ultrasound and radiography (X-ray). These give doctors a picture of the inside of the joint and may be more accurate than clinical examination. But they involve inconvenience for children and we need to know how to use imaging in a way that most benefits children's care.

WHAT DID THE AUTHORS HOPE TO FIND?

The authors hoped to find evidence about the role of imaging in the diagnosis and treatment of JIA. This included seeing how well the imaging techniques could detect both potentially treatable inflammation and permanent damage in joints, and how imaging could help in monitoring response to treatment. The study also looked for information on the use of imaging to assess the amount of joint involvement and show whether children are really in remission despite how well they might appear.

WHO WAS STUDIED?

The authors looked at studies that had already been published. These all reported the use of imaging techniques in children with JIA.

HOW WAS THE STUDY CONDUCTED?

A systematic review aims to identify all the published evidence on a particular topic and draw it together into one summary. This paper also included a meta-analysis, which means that statistical analyses were performed on the results in order to be sure that the conclusions being drawn are meaningful.

The authors used major electronic databases and clinical trial registries to search for trials and studies that reported studies of imaging techniques in children with JIA. The search gave a long list of 13,277 articles. Of these, 204 had the correct type of information and were included in the review.

WHAT WERE THE MAIN FINDINGS OF THE STUDY?

The authors developed nine key points to consider for the role of imaging in JIA. The findings suggest that imaging techniques are better than simple clinical examinations in evaluating joint inflammation. In particular, the authors highlight the importance of newer techniques such as ultrasound and MRI.

1. MRI and ultrasound are better than clinical examination in detecting joint inflammation.
2. When there is doubt, X-ray, MRI or ultrasound can be used to confirm a diagnosis of JIA.
3. MRI or ultrasound may be able to detect damage to the joints sooner than can be seen on an X-ray.
4. Imaging may be more useful in certain joints, for example in the lower back.
5. Imaging may be used to predict what damage might occur in the future.
6. MRI and ultrasound can be useful to monitor disease activity.
7. Joint damage should be checked for periodically.
8. Ultrasound can be used to guide injections into the joints.
9. MRI and ultrasound can be used for monitoring when the disease shows no clinical symptoms.

The study also helped the authors to develop a research agenda for further studies that are needed in this area.

ARE THESE FINDINGS NEW?

The findings from the individual studies are not new as this is a summary of the available data and evidence that has already been published elsewhere, but they provide an up to date summary of the available evidence in this area and this enabled the expert committee to make new recommendations for everyday care of JIA.

HOW RELIABLE ARE THE FINDINGS?

There were some limitations in the information available. JIA can be complex and not all patients have the same pattern of disease, so comparisons of existing data are not always straightforward.

WHAT DO THE AUTHORS PLAN ON DOING WITH THIS INFORMATION?

The authors have produced a research agenda based on the areas where information is currently lacking, and hope that this will encourage researchers to increase studies in this area. If more studies become available and the issues raised in the research agenda are addressed then it is hoped that this systematic review will be repeated in 5 years.

WHAT DOES THIS MEAN FOR ME?

The last decade has seen a major increase in the use of newer imaging (MRI and ultrasound) for adult arthritis and it is hoped that the new recommendations will provide encouragement and a sensible basis for their use in JIA.

There are differences in imaging for children and adults – for example, some techniques require the patient to lie very still for a long time, and this may not be practical for small children – but more research should help to develop better options. With better imaging techniques, children with JIA may receive better care and treatment that is tailored to their disease.

If you would like to know more about imaging and how it may help you or your child, you should talk to your doctor.

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