University of Pécs
Clinical Center

PReS-FINAL-2257

Sólyom, A[1], Mosdósi, B[1], Nyul, Z[1], Komlósi, K[2]
[1]Pediatric Hospital, [2]Department of Medical Genetics, on behalf of the Rare Disease Working Group, University of Pécs, Hungary.

Pediatric Rheumatology in a Rare Disease Working Group: examples of diagnoses

INTRODUCTION

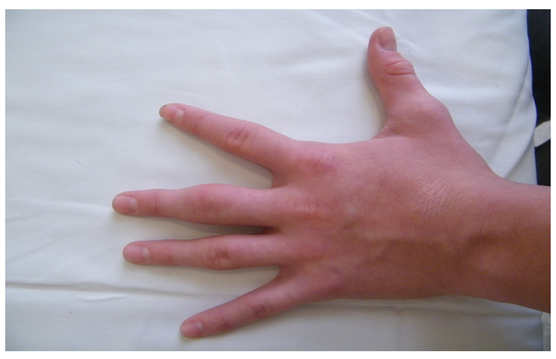
As part of an initiative to expand diagnostic resources, information, and quality of care for patients with rare diseases in Hungary, a network of specialists dealing with rare diseases was established at our University Clinical Center, and a Rare Disease Working Group was formed within the Pediatric Hospital.

METHODS / CASES

Each of the cases were seen together by a clinical geneticist and pediatric rheumatology service physician involved in the Rare Disease Working Group. We document here three different cases from among those seen, with complaints and presentations representing part of the pediatric rheumatology disease spectrum.

1 Pachydermodactyly

A 16 year old male presented with painless swelling of PIP joints II-V on both hands which had been consistently present for over one year. No contractures or evidence of inflammation were found. The patient was seen in a joint session (clinical genetics, rheumatology service), and the diagnosis of pachydermodactyly (a benign connective tissue lesion) established, sparing the patient further diagnostic interventions and unnecessary treatments.



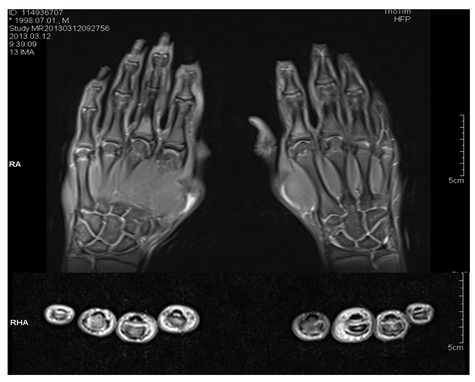
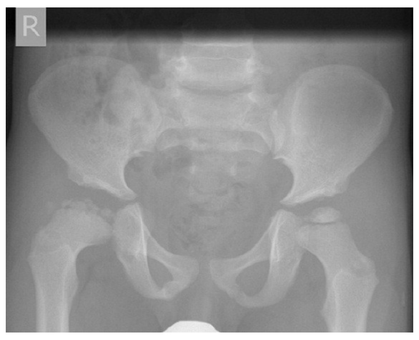


Image1-3. Pachydermodactyly: Left hand, MRI (connective tissue thickening).

2 Mucopolysaccharidosis

A 5 year old boy presented initially at 3 years of age with bilateral coxitis. One month later, significant radiological changes in both hips (including the acetabulum) were noted, with relatively minor physical complaints. He was diagnosed with Legg-Calvé-Perthes Disease by an orthopedic surgeon. When we saw him first, we found symmetrical contractures affecting the large joints (wrist, elbow, shoulder, hip, knees, and ankles), dysostosis multiplex (hip and hand x-rays), broad and somewhat coarse facial structure, hepatosplenomegaly and a normal intellect, signs consistent with an attenuated form of mucopolysaccharidosis. Urinary glycosaminoglycan levels were profoundly elevated. Enzymatic and genetic testing confirmed the diagnosis of mucopolysaccharidosis II (Hunter Disease). In addition to the initiation of enzyme replacement therapy, the diagnosis allows for planning of specialized care, follow up and intervention with regard to the patient's progressive joint disease.



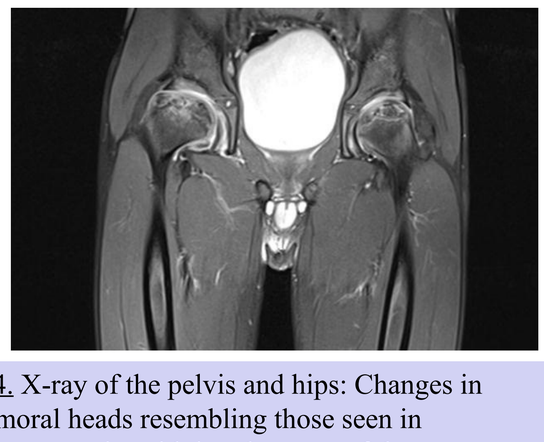


Image 4. X-ray of the pelvis and hips: Changes in both femoral heads resembling those seen in avascular necrosis, with involvement of the acetabulum, along with a smaller and narrowed pelvis. Dg: Consistent with dysostosis multiplex of MPS.

Image 5. MRI: The cartilage covering the joint surfaces is relatively intact, providing an explanation for our patient's "minor symptoms".
He is one of the fastest on his football team.

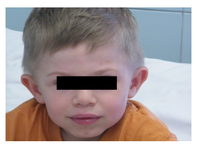


Image 6.
The patient at 7 years of age.

3 Stiff-skin Syndrome (congenital fascial dystrophy) ?

An 8 year old girl had been seen by a pediatric neurologist and orthopedic surgeon because of symmetrical painless contractures of her hips, knees, ankles and the small joints of her feet, which were increasingly affecting her everyday activities. She was referred to our clinical geneticist because of suspicion of a lysosomal storage disease. Upon examination the patient had scleroderma-like lesions symmetrically affecting both lower limbs, and an en-coup-de-sabre lesion on her scalp. Though contractures were found in all large joints, the only contractures associated with skin lesions were on the lower legs, where a deep incisional skin-biopsy was performed. A pathologist well-versed in adult scleroderma analyzed the specimens and found no sign of alterations normally associated with scleroderma, and no inflammatory infiltrate, only a structurally abnormal and thickened (4x normal) fascia. The tissue itself was the consistency of rubber. These findings led to the tentative diagnosis of congenital fascial dystrophy, or „Stiff-skin Syndrome". Analysis of the Fibrillin-1 (FBN1) gene found to be mutated in several such patients, revealed no alterations. We are closely following the patient, and additional extensive genetic analysis will hopefully be initiated in the near future.

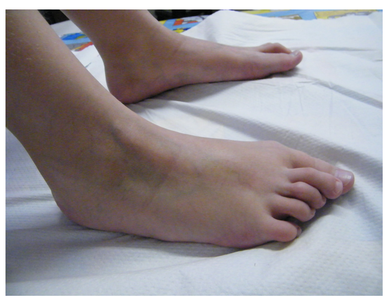


Image 7-8 (L). Scleroderma like lesions on the dorsum of the right foot, extending onto the extensor surface of the lower leg. Contractures of the digits due to skin changes. Symmetrical contractures of the hips and knees, areas where there is no palpable skin lesion.

Image 9. Full body image showing contractures of the large joints, without demonstrable structural changes or signs of inflammation.

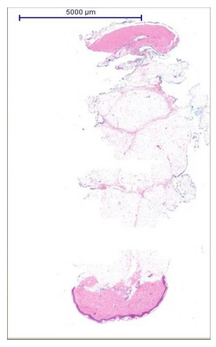
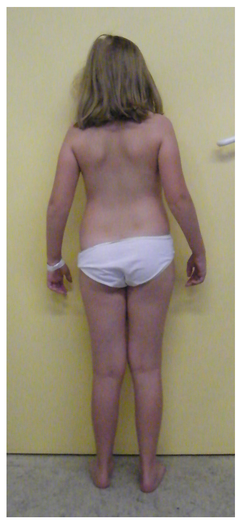


Image 10.
Incisional biopsy from the extensor surface of the lower leg, showing a thickened deep fascia.



SUMMARY

We hope to encourage the consideration of these diseases (albeit rare) as potential differential diagnoses, and the establishment of such „rare disease working groups" where they may not yet exist.

LITERATURE

Beltraminelli, H, et al., „Pachydermodactyly – Juat a sign of emotional distress". European Journal of Dermatology. 2009; 19(1): 5-13.

Cimaz, R, et al., „Joint contractures in the absence of inflammation may indicate mucopolysaccharidosis. Pediatric Rheumatology. 2009; 7:18.

Jablonska, S, et al., Scleroderma-like induations involving fascias: an abortive form of congenital fascial dystrophy (stiff skin syndrome). Pediatric Dermatology. 2000; 17(2):105-110.

CORRESPONDENCE

Dr. Alexander Solyom, MD. E-Mail: solyom.alexander@pte.hu . Tel.: +36 (72) 507-533
Pediatric Hospital, University of Pécs, Clinical Center
7623 Pécs, József Attila u, 7, Hungary