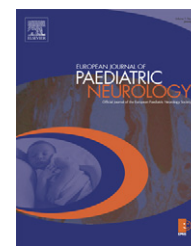




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Poster Sessions

Neurocutaneous disorders (NCD)

001NCDP Skin lesions in tuberous sclerosis show upregulation of the mTOR pathway and increased Bax expression

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Tuberous sclerosis (TS) is a neurocutaneous disorder manifesting with benign tumors or hamartomas in numerous organ systems. Skin lesions are one of characteristic features of TS patients. The disease is known to be caused by the mutation in one of two tumor-suppressor genes: TSC1 or TSC2, encoding hamartin or tuberlin, respectively. Both of the proteins form an intracellular complex controlling activity of mTOR kinase which, in turn, is responsible for triggering translation of numerous cell cycle-controlling proteins.

In our present study we aimed at evaluating whether skin lesions from TS patients would show any disturbances within the pathways influencing activity of hamartin and protein, i.e. Akt and Erk kinase pathways. Indeed, we found that both Akt and Erk are hyperactive in 2 out of 4 lesions. This led to activation of mTOR in all 4 lesions, as evidenced by increased phosphorylation of two mTOR effectors: S6 ribosomal protein and 4E-BP1 (responsible for binding translation initiation factor eIF4E). On top of that, we found that skin lesions show increased expression of a proapoptotic molecule Bax, with normal levels of Bcl-2.

In conclusion, we found that just like other types of TS-associated tumors, also skin lesions demonstrate upregulation of mTOR. Interestingly, this phenomenon is accompanied by upregulation of proapoptotic events.

002NCDP Diagnosis and follow up in three cases of incontinentia pigmenti

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Incontinentia pigmenti (IP) is an X-linked dominant genodermatosis characterized by abnormalities of the tissues and organs derived from the ectoderm and neuroectoderm. Involvement of the skin, hair, teeth, and nails is seen in conjunction with neurologic and ophthalmologic anomalies. The prognosis depends on the presence and severity of associated extracutaneous manifestations. Morbidity and

mortality primarily result from neurologic and ophthalmologic complications, including mental retardation, seizures, and vision loss.

In this report, three patients at different stages of the disease are presented.

It has recently been discovered that incontinentia pigmenti is caused by mutations affecting the NEMO gene, resulting in defective activation of the transcription factor NF- κ B – as in our patients. The vesicular, verrucous and hyperpigmented forms of incontinentia pigmenti may coexist. The incidence of severe neurological defects is lower than first thought, affecting only 5% of cases – our patients almost all have normal development outcome.

Clinical features are highly variable in females even within individual families, due to the effects of lyonization – all three patients have mildly affected phenotype.

We believe that once the diagnosis of incontinentia pigmenti has been established, a systemic series of screening investigations should be performed.

003NCDP The clinical findings and outcome of 37 patients with tuberous sclerosis

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Objective: Tuberous sclerosis complex (TSC) results in hamartomatous lesions primarily involving the skin, central nervous system, kidneys, eyes, heart, and lungs. The aim of this study was to focus a wide variety of clinical, pathologic, and radiologic manifestations and subependymal giant cell astrocytomas of this condition.

Method: This review included 37 children with tuberous sclerosis presenting to our department during a 15-year period.

Results: Totally 37 patients were included to the study, 21 of them were female and 16 of them were male. Average age of the patients were 63.6 months old. Patients' main reason for applying to hospital was convulsion. 20 patients (54%) applied to hospital with the complaining of having convulsion. 34 patients (91.9%) had hypomelanotic macules. After the cardiologic assessment intracardiac mass had been detected in 14 patients (37.8%). After the renal USG, performed to the patients, angiomyolipoma was detected in the 14 of the patients (37.8%). Subependymal nodule was the most frequent symptom detected in the cranial imaging. In 27 patients (73%) subependymal nodules, in 19 (51.4%) cortical tubers, in 5 (13.5%) giant cell astrocytomas were detected. In 18 patients mental retardation in different rates was detected.

Conclusion: A multidisciplinary approach is essential for an early, accurate diagnosis and proper management