NEUROFIBROMATOSIS – CASE PRESENTATION

Ioan Buraga[1], Daniela Trasca[2], Mihaela Selescu[2], Cristina Baetu[2], Oana Milea[2], Adelina Serban[2]

[1]Head of Neurology Department, Colentina Clinical Hospital, Bucharest
[2]Colentina Clinical Hospital, Bucharest

ABSTRACT

We are presenting the case of a 43 year old man, without significant phatological antecedents, who accused back pain with irradiation on the back of the thigh and the right calf, which were associated with paresthesia at the same level. Symptoms appeared a year ago, when the patient was on symptomatic treatments with minimal results.
On the generally examination there are found fifteen café au lait spots, distributed on the torso and limbs with the diameter above 15 mm, axillary hyperpigmentation, ten cutaneous neurofibromas with the same distribution and Lisch nodules in the iris.
We proceeded to MRI examination of the lumbar spine that reveals an important irregular thickening, tortue with pseudotumoral aspect, predominantly in the extraforamenal and periferic path and less in the intraforamenal of nerve roots from T12 to the sacral roots; widening of the conjugation foramina; changes are more pronounced in the sacral plexus (left > right), the terminal segments presenting the appearance of „pelvic mass" – MRI compatible with plexiform neurofibromas aspect. The final step was the histopatological examination which confirmed the diagnostic. The particularity of this case is that this pacient was very late diagnosed, despite the fact that he had many pathognomonical elements of neurofibromatosis, and his simptomatology was rough, ussualy this disease is diagnosed in childhood or as an young adult.

Key words: café au lait, Lisch nodules, neurofibromas

INTRODUCTION

Neurofibromatosis type 1 (NF1) is an autosomal dominant disorder, the main feature of which is the development of multiple peripheral nerve sheath tumors called neurofibromas. (1)

Von Recklinghausen disease affects approximately 1 in 3,500 individuals of all ethnic backgrounds, however, recent evidence indicates that the risk for optic nerve glioma is lower in African Americans than in Caucasians and Hispanics. It is inherited as an autosomal dominant disease and is manifested clinically by abnormalities that predominantly affect tissues which derive from the neural crest. (2)

Other characteristics besides neurofibromas include pigmentary changes in the skin, skeletal anomalies, and learning disabilities. The condition may be associated with other central nervous system tumors such as: optic gliomas, glioblastoma, meningioma and rarely pheochromocytoma. A variety of abnormalities include hamartomas of the iris (Lisch nodules), molluscum pendulum around the nipples and armpits, macrocephaly without hydrocephalus, stenosis of the Sylvius aqueduct which causes non-communicating hydrocephalus and a mild mental retardation attributed to a dysplasia of the cerebral cortex. (3)

The gene responsible for NF1 has been cloned, and encodes a protein referred to as "neurofibromin." Despite the fact that the function of neurofibromin is not completely understood, it is known that when there is a mutation on the gene that codes

Author for correspondence:
Ioan Buraga, Colentina Clinical Hospital, 19-21 Stefan cel Mare Road, Bucharest

for neurofibromin, there is a shorter version of this one, that can not bind the RAS protein, resulting in an abnormality in the cell division, that begins, but does not stop, resulting in specific growths. This emerging understanding of the pathophysiology of NF1 has suggested new avenues of treatment involving the use of Ras inhibitors. (1)

The 7 clinical criteria used to diagnose NF1 are as follows:

- six or more café-au-lait spots or hyperpigmented macules greater than or equal to 5 mm in diameter in children younger than 10 years and to 15 mm in adults;
- axillary or inguinal freckles;
- two or more typical neurofibromas or one plexiform neurofibroma;
- optic nerve glioma;
- two or more iris hamartomas (Lisch nodules), often identified only through slit-lamp examination by an ophthalmologist;
- sphenoid dysplasia or typical long-bone abnormalities such as pseudarthrosis;
- first-degree relative (eg, mother, father, sister, brother) with NF1.

Clinical diagnosis requires the presence of at least 2 of 7 criteria to confirm the presence of neurofibromatosis, type 1. Many of these signs do not appear until later childhood or adolescence, and thus confirming the diagnosis often is delayed despite a suspicion of NF1.

For individuals diagnosed with neurofibromatosis type 1 (NF1), routine examinations should focus on the potential complications. Annual examinations permit early detection of problems, decreasing morbidity and improving quality of life. (4)

CASE PRESENTATION

We are presenting the case of a 43 year old man, without significant phatological antecedents, who accused back pain with irradiation on the back of the thigh and the right calf, which were associated with paresthesia at the same level. Symptoms appeared a year ago, when the patient was on symptomatic treatments with minimal results.

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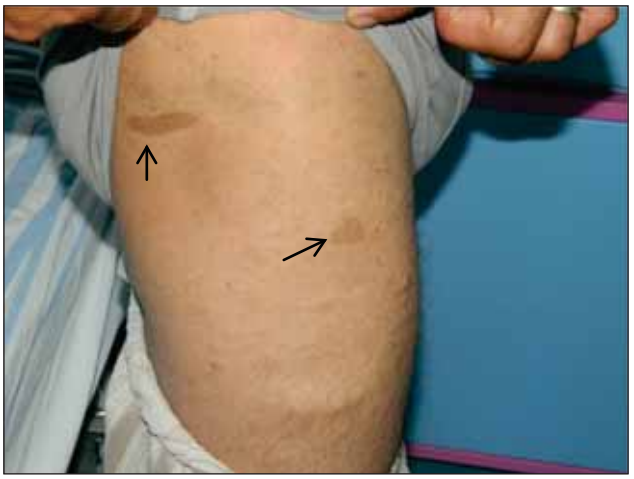
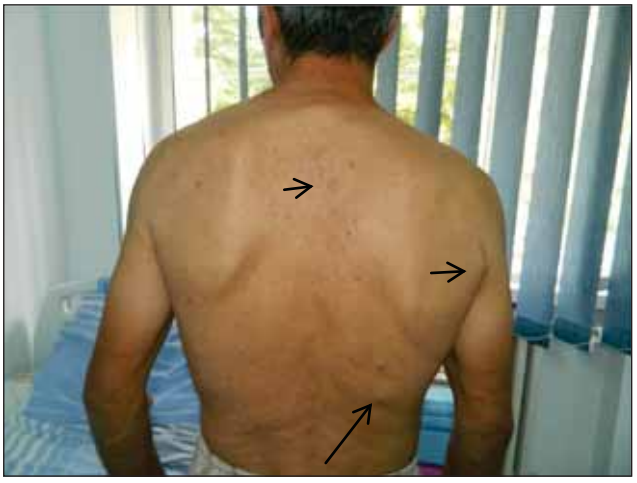
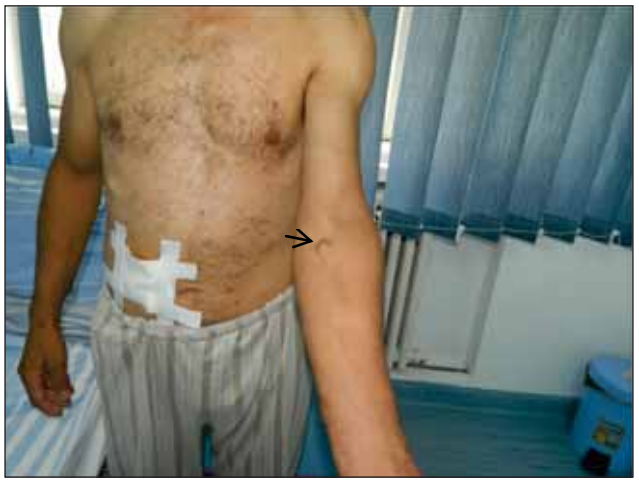
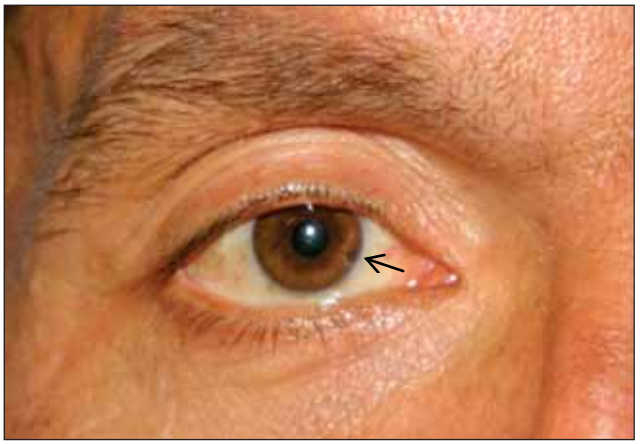








Anamnestic the patient tells us the existence of the café au lait spots from age 5 and neurofibromas around age 14. Routine medical examinations performed in infancy do not lead to the diagnosis of neurofibromatosis, so the disease goes unnoticed during this period. The patient symptomatology was frustrated until the current episode when the patient went to the doctor.

On the neurological examination,we find the patient temporo-spatially oriented, with Lhermitte sign, intact cranial nerves, right hemhyipoesthesia, global diminished tendon reflexes, Babinski present in the right leg, unorganized Romberg, nystagmus at the horizontal gaze with quick secusa to the right.

MRI examination of the lumbar spine reveals an important irregular thickening, tortue with pseudotumoral aspect, predominantly in the extraforamenal and periferic path and less in the intraforamenal of nerve roots from T12 to the sacral roots; widening of the conjugation foramina; changes are more pronounced in the sacral plexus (left > right), the terminal segments presenting the appearance of „pelvic mass“ – MRI compatible with plexiform neurofibromas aspect.

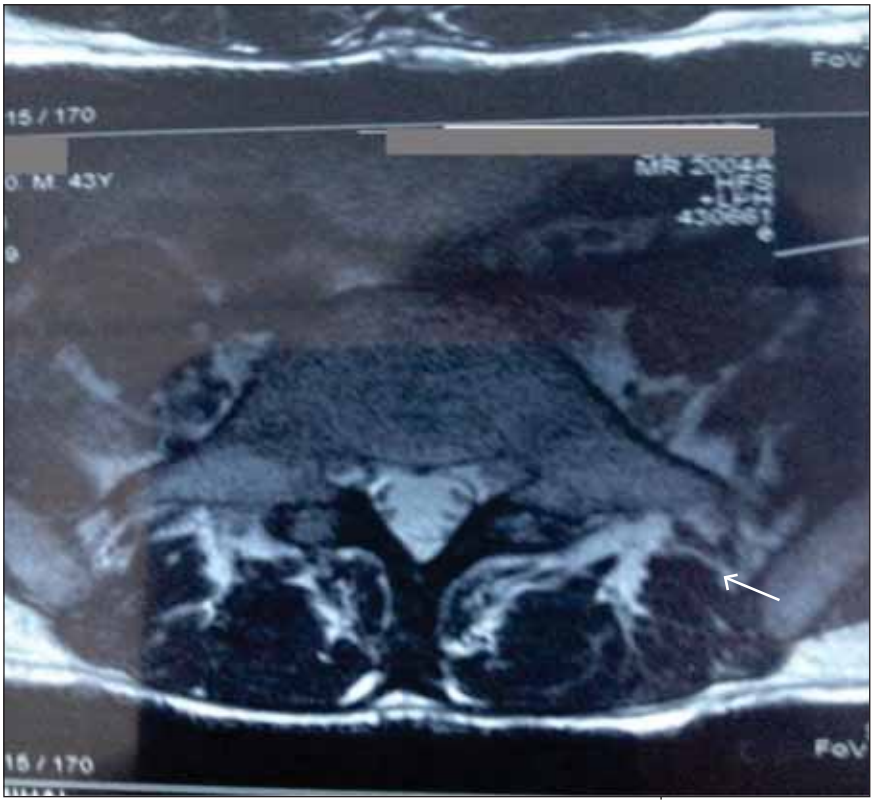
It is also observed the dextro-concave scoliosis, vertebral body hemangiomas T10,L2, small median hernia and right paramedian discrete L4-L5, which also mark the dural sac without disco-radicular conflict.

Cerebral MRI examination reveals no changes at this level and at the ophthalmological examination are prezent bilateral Lisch nodules.

It was taken a piece of skin, the size of 0.7/0.5 cm, with central showing of an elevated tumor with the dimmention of 0.4/0.3 cm. Histopathological examination: fragment of skin with a central tumoral formation with histopathological appearance of relative proliferation imprecise delimited, composed of monomorphic cells, fusiform cells, with oval cores, some bent/curled, arranged in short bundles and swirls; the structure of tumor proliferation includes skin adnexal structures and delineates thick collagen fibers in the free dermis interface; minimal lymphocytic inflammatory infiltrate with rare perivascular and perianexial mast cells; the interest in tumor proliferation is the deep limit of resection. The histopathological diagnosis was of neurofibroma.

DISCUSSION

The particularity of this case stands in the subtle symptoms of the patient, who has been diagnosed with the von Recklinghausen disease, relatively late, and the patient complaints being placed rather on the account of a possible herniated disc and not on the compression on the nerve roots neurofibromas. It is also worth mentioning that we didn't find any third degree relatives, in the family history,



with this pathology. Currently the patient is treated symptomatically, no known medical therapies are beneficial to patients with NF1. Several drug trials have been initiated, looking for medications that slow or halt the growth of neurofibromas. Thus far, none of these medications have demonstrated significant benefit, although various research trials involving chemotherapeutic and other agents are underway in an attempt to slow the growth of plexiform neurofibromas. Another attempt was to try to remove the café ou lait stains with laser therapy, but the method failed to permanent remove them.

It requires annual monitoring, of these patients, for early detection of possible complications

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