Physician connect

Vol 2 | Issue 20 | 2021

Dear Doctor,

Greetings from Micro Labs Limited. We are happy to bring you 'Physician connect' which contains latest and interesting news in the field of Medicine.

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- Focused Ultrasound Subthalamotomy for Parkinson's Disease
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Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,

Medical Team, Micro Labs Limited

Long-Term Risk of Progression to Sustained Hypertension in White-Coat Hypertension with Normal Night-Time BP Values

White-coat hypertension (WCHT) refers to the untreated condition in which high blood pressure (BP) values in the office coexist with normal BP values when measured by 24 h ambulatory blood pressure monitoring (24-ABPM), home blood pressure monitoring (HBPM), or both.

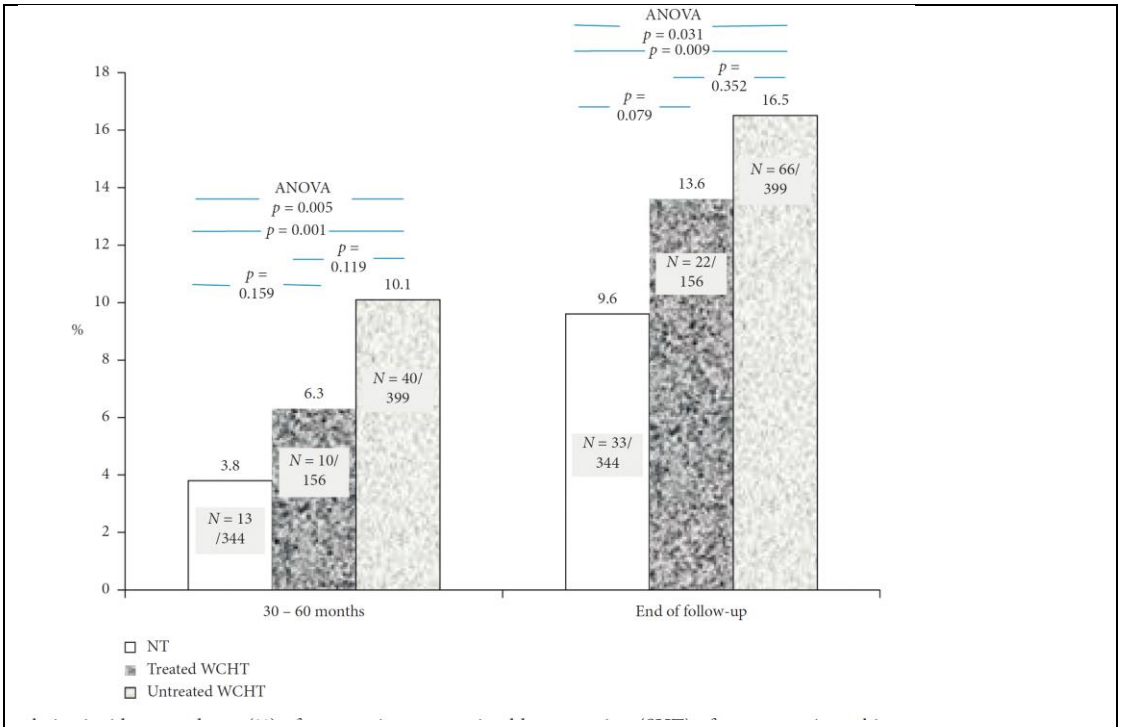
WCHT subjects should be closely monitored for control of associated risk factors and early detection of progression to SHT, desirably with 24-ABPM.

The long-term prognosis and transition towards sustained ambulatory hypertension (SHT) of white-coat hypertension (WCHT) remain uncertain particularly in those with both normal night time and daytime blood pressure (BP) values. Different classification criteria and the use of antihypertensive drugs may contribute to conflicting results.

Subjects were evaluated at baseline and at the two moments of the follow-up a total of 899 subjects who were 344 normotensives and 555 subjects with WCHT including 399 untreated and 156 treated with antihypertensive drugs. They were selected from a population studied in a previous cohort but among these, we analysed only those who had available and absolutely reliable data of an evaluation with 24 h-ABPM between 30 and 60 months and between 70 and 120 months after the first 24 h-ABPM at baseline. Thus, from the previous cohort [8] and under those criteria, we analysed 344 out of 812 normotensives and 555 out of 617 subjects with WCHT, i.e., including only those who had available two additional ABPM recordings during the follow-up. Out of the 156 treated subjects with WCHT, 48 subjects received treatment before the 30th month of follow-up, and the remaining 108 subjects thereafter until the end of the follow-up

This prospective study evaluated for a 7.1 year transition to SHT in 899 nondiabetic subjects free from cardiovascular (CV) events: normotensive (NT) (n = 344; 52, 9% female; ageing 48 ± 14 years); untreated WCHT (UnWCHT n = 399; 50, 1% female; ageing 51 ± 14 years); and treated WCHT with antihypertensive drugs after baseline (TxWCHT n = 156; 54, 4% female; ageing 51 ± 15 years).

Baseline metabolic parameters did not differ among groups. At 30–60 months and at the end of follow-up, development of SHT occurred, respectively, in NT (3.8% (n = 13) and 9.6% (n = 33)) and in UnWCHT (10.1% (n = 40) and 16.5% (n = 66)) (P<0.009). The mean annual increase of average 24 h-systolic BP was 0.48 + 0.93 in NT and 0.73 + 1.06 in UnWCHT, whereas annual SBP in office increased in NT by 1.2 + 0.95 but decreased in UnWCHT by 1.36 + 1.35 mm Hg (P<0.001).



Cumulative incidence and rate (%) of progression to sustained hypertension (SHT) of normotensive subjects (NT) and treated and untreated WCHT subjects. In untreated WCHT, SHT occurred more frequently and earlier than NT.

In WCHT population selected by normalcy of daytime and NBP values, Faija et al. found a faster and a significantly higher risk of transition from WCHT to SHT compared to normotensive subjects. Treated WCHT appears to assume an intermediate position between untreated WCHT and NT. Although we still lack robust evidence to confirm the benefit of antihypertensive treatment in the outcome of WCHT, the transition to SHT may be attenuated or delayed when antihypertensive therapy is undertaken. Although no increase in cardiovascular events was so far detected, these results support that WCHT subjects should be closely monitored for control of associated risk factors and early detection of progression to SHT, desirably with 24-ABPM

Source: Faria J et al. Int J Hypertension 2020 Dec; 8817544:1-8. Doi. https://doi.org/10.1155/2020/8817544

Focused Ultrasound Subthalamotomy for Parkinson's Disease

Parkinson's disease is characterized by bradykinesia, rigidity, and resting tremor. Several medical treatments are available, but refractory motor manifestations such as tremor and motor complications impair quality of life for many patients. Deep-brain stimulation of the subthalamic nucleus has become the preferred neurosurgical approach in place of ablative procedures such as pallidotomy and thalamotomy. Magnetic resonance–guided focused ultrasound allows for the ablation of deep-brain structures, including the subthalamic nucleus, without craniotomy and electrode penetration and is being investigated as a treatment for Parkinson's disease.

Focused ultrasound subthalamotomy in one hemisphere improved motor features of Parkinson's disease in selected patients with asymmetric signs.

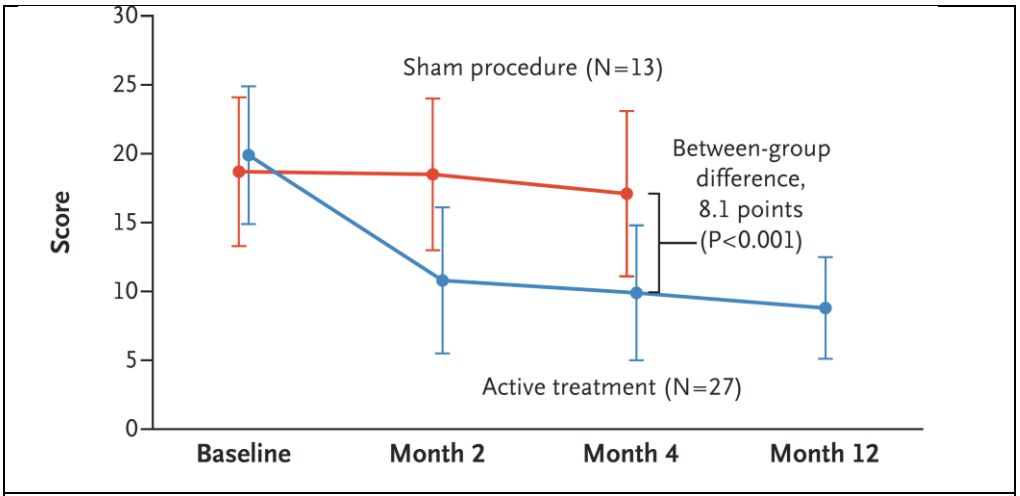
Focused ultrasound thalamotomy has been approved by the Food and Drug Administration to treat essential and parkinsonian tremors. Results from two uncontrolled studies have suggested that focused ultrasound subthalamotomy and pallidotomy performed on one side may reduce motor manifestations of Parkinson's disease.

Patients are potential candidates for ultrasound ablation if they have prominently asymmetric parkinsonism, if they are not considered to be clinically suitable candidates for surgery because of contraindications, or if they are reluctant to undergo a brain operation or to have an implanted device. This was a prospective, randomized, sham-controlled, double-blind trial of focused ultrasound subthalamotomy, performed on one side, for the treatment of Parkinson's disease in a selected group of patients with highly asymmetric motor signs.

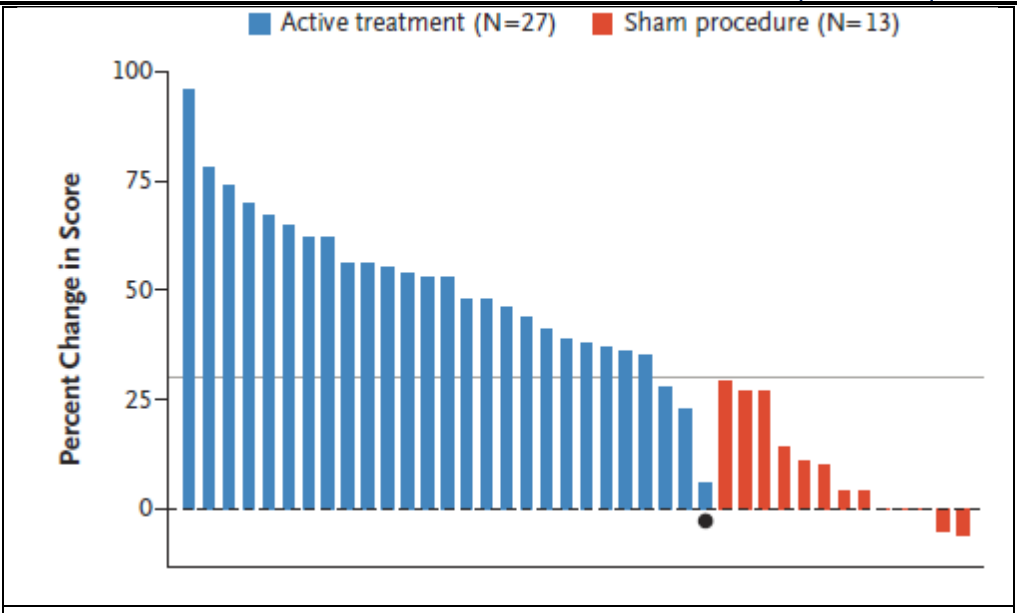
Subjects were randomly assigned, in a 2:1 ratio, patients with markedly asymmetric Parkinson's disease who had motor signs not fully controlled by medication or who were ineligible for deep-brain stimulation surgery to undergo focused ultrasound subthalamotomy on the side opposite their main motor signs or a sham procedure. The primary efficacy outcome was the between-group

difference in the change from baseline to 4 months in the Movement Disorder Society–Unified Parkinson's Disease Rating Scale (MDS-UPDRS) motor score (i.e., part III) for the more affected body side (range, 0 to 44, with higher scores indicating worse parkinsonism) in the off-medication state. The primary safety outcome (procedure-related complications) was assessed at 4 months.

Among 40 enrolled patients, 27 were assigned to focused ultrasound subthalamotomy (active treatment) and 13 to the sham procedure (control). The mean MDS-UPDRS III score for the more affected side decreased from 19.9 at baseline to 9.9 at 4 months in the active-treatment group (least-squares mean difference, 9.8 points; 95% confidence interval [CI], 8.6 to 11.1) and from 18.7 to 17.1 in the control group (least-squares mean difference, 1.7 points; 95% CI, 0.0 to 3.5); the between-group difference was 8.1 points (95% CI, 6.0 to 10.3; P<0.001). Adverse events in the active-treatment group were dyskinesia in the off-medication state in 6 patients and in the on-medication state in 6, which persisted in 3 and 1, respectively, at 4 months; weakness on the treated side in 5 patients, which persisted in 2 at 4 months; speech disturbance in 15 patients, which persisted in 3 at 4 months; facial weakness in 3 patients, which persisted in 1 at 4 months; and gait disturbance in 13 patients, which persisted in 2 at 4 months. In 6 patients in the active-treatment group, some of these deficits were present at 12 months.



Mean MDS-UPDRS III Score for More Affected Side



Change in MDS-UPDRS III Score for More Affected Side in Individual Patients

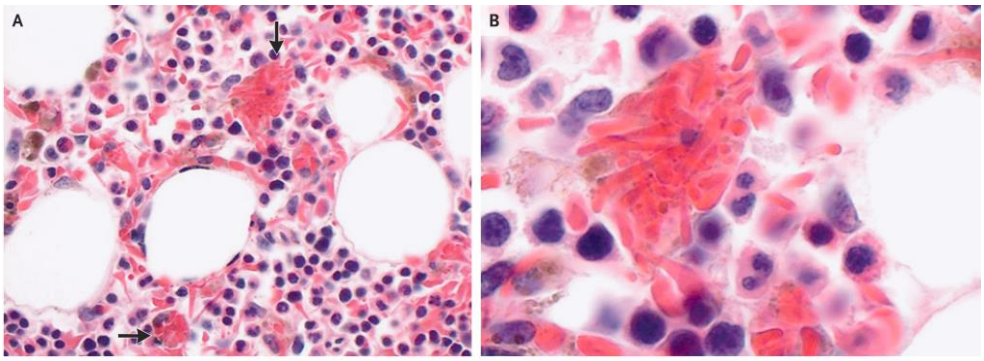
Focused ultrasound subthalamotomy in one hemisphere improved motor features of Parkinson's disease in selected patients with asymmetric signs. Adverse events included speech and gait disturbances, weakness on the treated side, and dyskinesia. Longer-term and larger trials are needed to determine the role of focused ultrasound subthalamotomy in the management of Parkinson's disease and its effect as compared with other available treatments, including deep-brain stimulation

Martínez-Fernández R et al. N Engl J Med. 2020 Dec 24;383(26):2501-2513. doi: 10.1056/NEJMoa2016311.

Hemophagocytosis of Sickle Cells: A Case Report

A 60-year-old man presented to the hematology clinic with fatigue and dyspnea on exertion. He had a history of sickle cell disease with hemoglobin genotype SS. Physical examination was notable for conjunctival pallor and mild scleral icterus. Laboratory studies showed a hemoglobin level of 5.9 g per deciliter (baseline range, 6 to 8; reference range, 13.5 to 16) with undetectable hemoglobin S. The ferritin level was

elevated at 11,505 ng per millilitre (reference range, 22 to 277). The patient was admitted to the hospital, and evaluation for infectious causes of anemia, including testing for cytomegalovirus, Epstein–Barr virus, and parvovirus, was negative. Bone marrow biopsy revealed normocellular bone marrow with marked erythroid hyperplasia and hemosiderosis.



Numerous hemophagocytic histiocytes containing sickle cells were seen on light microscopy (Panel A, arrows; Panel B shows a magnified view). The criteria for the diagnosis of hemophagocytic lymphohistiocytosis were not met. Hemophagocytosis in sickle cell disease is a rare but recognized entity that is associated with viral infections. Selective hemophagocytosis of sickle cells with peripheral disappearance of hemoglobin S as a cause of severe anemia is highly unusual. The patient received treatment with red-cell transfusions and iron chelation. He was discharged from the hospital and continues to receive maintenance red-cell transfusions every 3 weeks.

Mensah F et al. N Engl J Med 2020 Dec; 383:26