

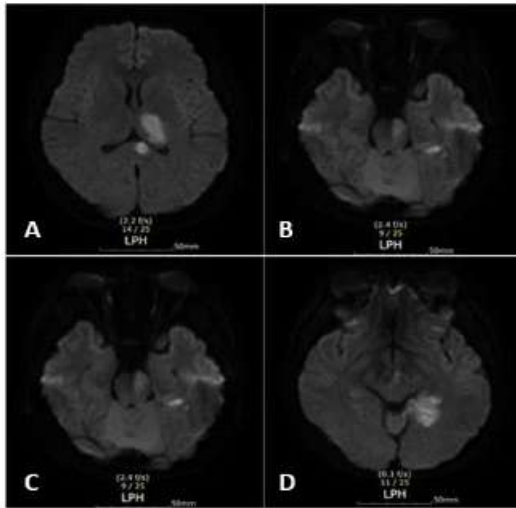
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Introduction

- The use of rTMS (repetitive Transcranial Magnetic Stimulation) is still cautioned in cases of severe cerebral hemorrhage or in pregnant women, owing to the potential risks involved.
 - When rTMS was applied to maternal depression : **Positive outcome** , **No side effect**
- rTMS with conventional rehabilitation therapy to improve the prognosis of a young mother who suffered a stroke

Case Report

- A 34-year-old pregnant woman at 24+0 weeks of gestation with dysarthria and right-side weakness.
- No underlying disease, History of 2 attempts of IUI, 5 attempts of IVF-ET
- Initial Brain MRI : Acute infarction on the left side of the corpus callosum, thalamus, occipital lobe, pons, and midbrain (Figure 1).
- All tests conducted to check for complications in the mother and fetus were normal (vital sign, other blood test, EKG, TTE, perinatal USG, etc.)



Assessment	Baseline	3 weeks	6 weeks	10 weeks
1 Purdue	0/ 8	0/10	1/13	4/15
2 Grip(kg)	0/12	6/14	12/16	12/16
3 JHFT	0/80	2/85	14/85	17/85
4 FAC	0	2	3	4
5 MBI	10	40	64	75
6 MRS	5	4	4	3

Figure 1. Lesion of cerebral infarction on brain MRI image (A) at left corpus callosum, and thalamus, (B) at occipital lobe, (C) at left pons, (D) at left midbrain. Table 1. Timecourse of motor recovery as determined 3, 6 and 10 weeks after combination of RTMS and rehabilitation therapy

- The initial evaluation : completely flaccid grade of Rt U/E, L/E
- 45 sessions rTMS** with conventional rehabilitation therapy **over 10 weeks**.
- rTMS protocol : Total of 1,500 pulses, 1Hz, 10 stimulations per train, stimulation intensity : 45(90% of RMT), Stimulation site : M1 contralesional hemisphere.
- After **three weeks** of combined therapy, the patient was able to **walk with a cane**, increased upper extremity muscle strength and hand function
- At the **time of delivery**, the patient was able to use **both hands to type on a laptop and her ability to walk with a cane** under supervision (Figure 2).
- During the 10 weeks of rTMS therapy, No significant side effects and any fetal dysfunction

The delivery was performed by cesarean section at 37+3 weeks of gestation, and the newborn weighed **2900 g with Apgar scores of 10 at 1 and 5 min**

- Both the mother and newborn showed **normal vital signs** and **postpartum examinations**

Conclusion

This case suggest that severely impaired motor function in maternal stroke, the combination of rTMS and rehabilitation therapy was effective, and there was no harm to the fetus or mother. Therefore, rTMS may be a good alternative for perinatal stroke treatment.