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Two cases of pregnancy in Parkinson's disease

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Because Parkinson's disease (PD) is an age-related disease, pregnancy in this setting is rare and reports are limited. Here we report two cases of Parkinson's disease and pregnancy, one successfully managed with dopamine agonists.

Approximately 400 women under the age of 50 are diagnosed with PD each year in the United States [1]. According to Routiot et al., only 5% of the patients have an onset before the age of 40 years [2]. There are approximately 40 reports of pregnancy in PD published in the English literature, including ours. Reporting the outcome of this infrequent clinical scenario will help address important questions that arise regarding the effect of PD on pregnancy, the effect of pregnancy on PD, and the potential influence of PD treatment on fetal development.

One of our two patients was a 26-year-old Caucasian woman who was referred to our Movement Disorders Clinic for evaluation with an 18 month history of tremor. The history and examination were suggestive of early-onset PD, Hoehn and Yahr stage 2. Secondary causes of parkinsonism were excluded. Genetic testing was not pursued because of the negative family history of parkinsonism, no typical demographics, and no unusual clinical characteristics. She was in a non-consanguineous marriage and became pregnant at age 27. She had discontinued pramipexole during her first month of pregnancy. Three days after the discontinuation of pramipexole, her symptoms recurred and impaired her quality-of-life. Three weeks later, she resumed the use of pramipexole at a lower dose of 0.75 mg daily (she was on 3 mg daily antepartum), regaining reasonable symptomatic control. Three weeks before the expected delivery date, pramipexole was again titrated up to 3 mg daily to optimize her motor function for labor. She had an uneventful vaginal delivery of a normal-term boy. Breastfeeding was not pursued. Although still at Hoehn and Yahr stage 2, 6 months after delivery her pramipexole was increased to 4.5 mg daily to gain additional symptomatic benefit. The patient developed very mild peak-dose dyskinesias 4 years after diagnosis. The child's development has been normal during the first three years of his life.

The second patient was a 29-year-old Caucasian woman who was referred to our clinic for evaluation of a 2-year history of unilateral hand tremor and shoulder pain. Her history and neurological examination were consistent with a diagnosis of idiopathic PD. A brain MRI was normal, and appropriate testing excluded other causes of parkinsonism. Again, genetic cause was not entertained here for the same reasons cited for the first patient. She was prescribed ropinirole, and one year later she became pregnant. Again, there was no history of consanguinity. The patient discontinued this medication once she knew that she was pregnant fearing teratogenic effects. Her symptoms returned to baseline levels. Treatment with a very low dose of ropinirole was considered, but she elected to be off medication. Despite being untreated and with her baseline parkinsonian symptoms, she underwent a vaginal delivery of a healthy boy at term without complications. She elected not to breastfeed, and her dopaminergic therapy was resumed one month post-partum and provided symptomatic relief. Her son is a healthy 14 months old child.

We describe two women with early-onset PD who went through uneventful pregnancies. While the first patient continued taking pramipexole throughout the pregnancy, second patient was exposed only during the first month of pregnancy. Because pregnancy in PD is rare, reporting this association is important to collect sizeable evidence that will serve as a guide for those clinicians who face such clinical scenario.

A few reports have provided conflicting data on the influence of pregnancy on PD. Most case reports, however, showed worsening during pregnancy or the postpartum period. Some reported no change in the disease course or severity while others reported some improvement also [3]. In the patients described here, there were no unexpected events or progression of the disease that could be ascribed to the pregnancy. However, all of these are descriptive reports of small number of patients lacked a control non-pregnant group.

Until more information becomes available, the approach taken for these patients, as above seems to be a reasonable option. The use of pramipexole in our first patient had no detectable effects on the child. From a German Registry, fifteen patients of Restless Leg Syndrome who were treated with various dopaminergic treatments (levodopa, pramipexole, rotigotine, ropinirole in various combinations), no major birth defects were found with any RLS treatment, and three infants exposed to levodopa had minor anomalies [4]. No case reports exist regarding the use in pregnancy of entacapone, tolcapone, rasagiline, or benztropine.

Previous studies in the literature suggest that there is no or minimal effect of Parkinson's disease on the pregnancy and fetus, and the similar observation was noted in our patient [5]. Furthermore, despite not receiving any treatment for the PD during pregnancy the second patient was able to go through an uneventful vaginal delivery, as was the patient on pramipexole. Thus, simply the presence of PD should not influence the physician decision on the delivery route. Finally, both patients delivered healthy boys who did not exhibit any health or developmental problems during their first year of life.

In summary, these reports add to the limited list of descriptions of pregnancy in PD, proposing a potential therapeutic approach and describing the uneventful use of non-ergot

dopamine agonists for symptomatic improvement in this infrequent association. Our cases may help clinicians approach the rare scenario of pregnancy and Parkinson's disease.

References

1. Golbe LI. Pregnancy and movement disorders. *Neurol Clin.* 1994; 12:497–508. [PubMed: 7990787]
2. Routiot T, Lurel S, Denis E, Barbarino-Monnier P. Parkinson's disease and pregnancy: case report and literature review. *J Gynecol Obstet Biol Reprod (Paris).* 2000; 29:454–7. [PubMed: 11011274]
3. Mucchiut M, Belgrado E, Cutuli D, Antonini A, Bergonzi P. Pramipexole-treated Parkinson's disease during pregnancy. *Mov Disord.* 2004; 19:1114–5. [PubMed: 15372610]
4. Dostal M, Weber-Schoendorfer C, Sobesky J, Schaefer C. Pregnancy outcome following use of levodopa, pramipexole, ropinirole, and rotigotine for restless legs syndrome during pregnancy: a case series. *Eur J Neurol.* 2013; 20(9):1241–6. [PubMed: 23083216]
5. Jacquemard F, Palaric JC, Allain H, Giraud JR. Parkinson disease and pregnancy. Apropos of a case. *J Gynecol Obstet Biol Reprod (Paris).* 1990; 19:461–3. [PubMed: 2199565]