

A Rare Case Of Seconder Parkinsonism Caused By Antiallergic Treatment

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Abstract

Drug-induced parkinsonism (DIP), usually seen in elderly patients, occur acute or subacute and generally a reversible clinic syndrome. If it was undiagnosed and usage of offending drug was maintained, it could be progressive and serious. Although the most common offending agents are anti-psychotics for DIP, different agents could cause this syndrome. We report a case of 26-years-old woman with an allergic reaction whom treated with intramuscular pheniramine and dexamethasone injection. Four hours after the injection, she complained with poverty of movement of her arm and foot, unsteady gait. On examination, she had bilateral but right dominant asymmetric rigidity, bilateral cog-wheeling, unsteady gait. Her symptoms resolved after receiving IV and oral anti-cholinergic treatment for three weeks. Our case is remarkable to submit with there was no similar report in literature caused by the agents that is frequently used in emergency services.

Key words: secondary parkinsonism, dexamethasone, pheniramine, drug side effect reactions

Özet

İlacı bağı parkinsonizm, genellikle ileri yaşlarda, akut ya da subakut ortaya çıkan, büyük oranda geri dönüşümlü klinik bir sendromdur. Ancak tanının gecikmesi ve/veya etyolojik ajan kullanımının devamı halinde progresif ve ciddi bir seyir gösterebilir. Yaygın olarak anti-psikotiklerle ilişkilendirilen sendroma birçok farklı ajan da yol açabilmektedir. Burada 26 yaşında alerjik reaksiyonu intramuskuler feniramin hidrojen maleat+dexametazon enjeksiyonu ile tedavi edilen bir olgu sunulmuştur. Enjeksiyondan 4-5 saat sonra kol ve bacaklarını hareket ettirmekte zorlanma ve yürüme güçlüğü şikayetlerinin başladığı öğrenildi. Şikayetleri iv ve oral antikolinergik tedavi ile üç hafta içinde geriledi. Dexametazon ve feniramin kullanımına sekonder akut parkinsonizm olgumuz, literatürde bir benzeri olmaması ve acil servis koşullarında oldukça sık kullanılan bir kombinasyona bağlı gelişmesi nedeniyle paylaşılmağa değer görülmüştür.

Anahtar Kelimeler: sekonder parkinsonizm, feniramin, deksametazon, ilaç yan etkisi

Introduction:

Drug induced parkinsonism, was firstly defined by Bergouignan, Regnier, Steck, account for 4-10% in all parkinsonian syndrome¹. Pathophysiology is based on, blocking of post synaptic dopamine receptors with etiologic agents and halt of basal ganglion motor functions². Syndrome becomes symptomatic when the rate of blockaded receptors increase 80%, therefore the symptoms can emerge within a few days to a few month after exposure^{2,3}.

Typical antipsychotics are generally known the etiologic agents furthermore, antidepressants, calcium channel blockers, atypical antipsychotics, peripheral dopamine antagonists, gastrointestinal pro-kinetics are in these group^{1,3,4}. Clinic improvement could be seen (88.7%) with discontinue or decrease the drug dosage. But, the period of drug devoiding time should be extend to 6 months for resolving¹.

We described a rare case which experienced severe drug induced acute parkinsonism caused by dexamethasone and pheniramine injection.

Case:

A 26 years-old-woman presented with stiffness of limbs and unsteady gait. Her history was suggested that the parkinsonian syndrome occurred after 4-5 hours of pheniramine plus dexamethasone intramuscular injection due to widespread swelling, redness and itching which was thought an allergic reaction. There was no chronic illness or usage of any drug except smoking (20 cigarettes per days for 8 years).

Physical examination was normal; fever was 36.6°C, tension arterial was 110/70mmHg, pulse rate was 76 per minute, respiratory rate was breathing 16 per minute. On neurological examination, she was awareness, orientated and cooperated. Pupils were isochoric, pupil reflex +/- . Eye movement to all directions was normal. Examination of motor and sensorial system was normal. Deep tendon reflexes were active on upper-extremities, but hypoactive on low-extremities, sole skin responses were bilaterally flexor. She had increased muscle tone, asymmetric rigidity (predominantly-right- side), cog-wheeling and shuffling gait.

On laboratory tests; complete blood count, biochemical values, creatine kinase (CK) were normal. We thought that was a drug

induced Parkinsonism because of her complains were occurred suddenly and there were no similar complaints before. So, 5 mg biperiden within isotonic fluid was applied to patient intravenously. But the complaints remained for 12 hours after the acute treatment. Magnetic resonance imaging was normal (had been showed in figure 1). The oral anti-cholinergic drug (2 mg per oral three times a day for bronaprine HCl) was used for the symptomatic treatment. The complaints had been reversed after the 3 weeks of this treatment.

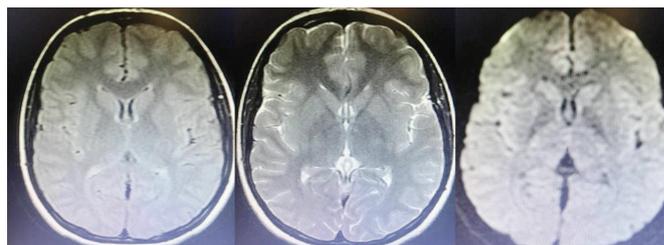


Figure 1) Normal cranial and diffusion magnetic resonans imaging.

Discussion:

Drug-induced Parkinsonism (DIP) is a common, rarely crucial and usually reversible drug side effect reaction⁵. Advanced age, gender of female, dosage and exposure time of etiologic drugs, cognitive disturbance, existence of extrapyramidal systems disorders and genetic factors are risk factors^{1,5}. The most common etiologic drugs are; typical antipsychotics, antidepressants, calcium channel blockers, atypical antipsychotics, peripheral dopamine antagonists, gastrointestinal pro-kinetics are in these group^{1,4}, and some of the drugs were rarely suggested with case reports such as, phenothiazine derived anti-histaminic, valproic aside, amiodarone, lithium, anti-cholinergic and trimethasidine⁵.

Diagnosis of DIP regarding to DSM-V based on appearance of resting tremor, rigidity, akinesia or bradykinesia within a few weeks after the beginning or increasing dose of etiologic agents or decreasing dose of Parkinsonian treatment⁶. The most common symptom is rigidity and the symptoms are usually have tendency of bilaterally and symmetrically^{1,3}. Bradykinesia is not a mandatory symptom, differently with Parkinson's disease but similarly symptoms of axial involvement (gait disruption, postural instability), asymmetric Parkinsonism and resting tremor could be seen according to severity of the syndrome^{1,7}. This clinic made the differential diagnosis difficult between Parkinson's disease and drug

induced Parkinsonism. In our young female patient, experienced with rigidity, predominantly right and low limbs, and shuffling gait after the injection of pheniramine and dexamethasone combination.

Pheniramine hydrogen maleate is an alkylamine derived first degree H1 antihistaminic which display low selective, high sedative and anti-cholinergic effects. In literature, there was no similar case of movement disorders without choreiform movement disorder, association with over dosage of pheniramine amynosalicylate (500-1000mg). Mendelson elucidated physiopathology of the case with anticholinergic syndrome and used tetra-hydro-amacrine (tacrine) treatment⁸. Our case included a discrepancy via experienced with hypokinetic movement disturbance (Parkinsonism) in therapeutic dose, that needing long-term anticholinergic treatment which is the first case in literature.

Dexamethasone is a prednisolone derived steroid which is a potent anti-inflamatur molecule. In literature there is one case of inhaled steroid induced hemichorea but there have been no movement disorders associated with dexamethasone⁹.

Protection from the syndrome based on avoiding acute or long-term usage of etiologic agents and arrangement of minimum effective dose is crucial whether it is necessary. There is no any established treatment for drug induced Parkinsonism exception of withdrawing the drug or attenuating the dosage. But anti-cholinergic agents or amantadine could be used for symptomatic treatment¹⁰. In our case, despite administration of intravenous biperidine, initially symptomatic treatment approach for drug induced Parkinsonism, the response was particular so went on anticholinergic treatment orally for three weeks. The work-up for other secondary causes of Parkinsonism was negative.

In conclusion, our case, is remarkable to submit with being the first case of secondary Parkinsonism caused by pheniramine+dexamethasone which is frequently used in emergency room for allergic reactions. Drug adverse reactions are mainly significant because of usage of multiple drugs nowadays so pheniramine+dexamethasone combination should be a considerable agent for secondary parkinsonism.

Conflict Of Interest

There are no conflicts of interest.



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