

Reduplicative Paramnesia in A Case With Corpus Callosum Lesion

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ABSTRACT

Purpose: Reduplicative paramnesias (RP) are rare memory disorders characterized by the subjective conviction that a place, person or event is duplicated. Even if RP often follow a right frontal lesion, several studies have stressed the importance of bilateral hemispheric pathology. We report a patient who developed RP and hallucinations as well as who had a corpus callosum lesion.

Case Presentation: A 71-years-old married women admitted to Marmara University Hospital with the symptoms of ataxia and difficulty in talking emerged during the last month before admission. Magnetic resonance imaging (MRI) showed a space occupying lesion at the genu of the corpus callosum extending through frontal parts of the lateral ventricles. On physical examination patient had bilateral hypoactive deep tendon reflexes, left hemihypoesthesia, and ataxia. Stereotaxic biopsy of the intracranial lesion revealed glioblastoma multiforme. Mental state examination detected severe disorientation to time, spontaneous and rapid speech which is occasionally, visual hallucinations and reduplicative misidentifications of her daughter with her bride and the hospital with her home.

Discussion and Conclusion: Although some authors suggest that a right hemisphere lesion is necessary and sufficient for RP, there is view that a bilateral or diffuse lesions are necessary for RP to occur. Moreover, since the corpus callosum is an interhemispheric structure, lesions of this structure which may interrupt the connection between the two hemispheres can also lead RP.

Keywords: reduplicative paramnesia, corpus callosum lesion, delusional misidentification

ÖZET

Korpus Kallozum Lezyonu Olan Bir Olguda Reduplikatif Paramnezi

Amaç: Reduplikatif paramneziler (RP) hastanın bir yer, kişi veya olayın çift olduğuna inancının olduğu nadir görülen hafıza bozukluklarıdır. Sıklıkla sağ frontal lob lezyonunu takiben ortaya çıksa da birçok çalışma bilateral hemisferik patolojinin önemini de vurgulamaktadır. Bu yazıda RP ve hallüsinasyon geliştiren aynı zamanda da korpus kallozum lezyonu olan bir hasta sunulmaktadır.

Olgu: 71 yaşında evli bir kadın 1 aydır ortaya çıkmış olan ataksi ve konuşmada güçlük şikâyetleriyle Marmara Üniversitesi Hastanesi'ne başvurdu. Yapılan manyetik rezonans görüntüleme (MRG) hastada, korpus kallozumun gövdesinden başlayıp lateral ventriküllerin frontal bölgelerine doğru uzanan yer kaplayıcı bir lezyon gösterdi. Fizik muayenede bilateral hipoaktif derin tendon refleksleri, sol hemihipoestezi ve ataksi tespit edildi. Hastanın kafaiçi lezyonuna yapılan stereotaksik biyopsi glioblastoma multiforme sonucunu verdi. Mental durum muayenesinde zaman oriyantasyonunda şiddetli bozulma, nadir olan ancak spontan ve hızlı konuşma, görsel hallüsinasyonlar ve kızının geliniyle, hastanenin de eviyle reduplikasyonu şeklinde yanlış tanınması tespit edildi.

Tartışma ve Sonuç: Bazı yazarlar RP oluşması için her ne kadar sağ hemisfer lezyonunun gerekli ve yeterli olduğunu öne sürseler de bilateral veya yaygın lezyonların gerekli olduğu görüşü de mevcuttur. Bununla birlikte korpus kallozum bir hemisferler arası yapı olduğundan her iki hemisfer arasındaki bağlantıyı da bozarak RP'ye neden olabilir.

Anahtar Kelimeler: reduplikatif paramnezi, korpus kallozum lezyonu, sanrsal misidentifikasyon

INTRODUCTION

Reduplicative paramnesia is redefined as a delusion of familiarity related to a reduplication of time, place or person (Sno 1994). The patients with reduplicative pa-

ramnesia more frequently suffered from head trauma or cerebral infarction and showed more features of right hemisphere lesions on neuropsychological testing or CT scan than the patients with other misidentification

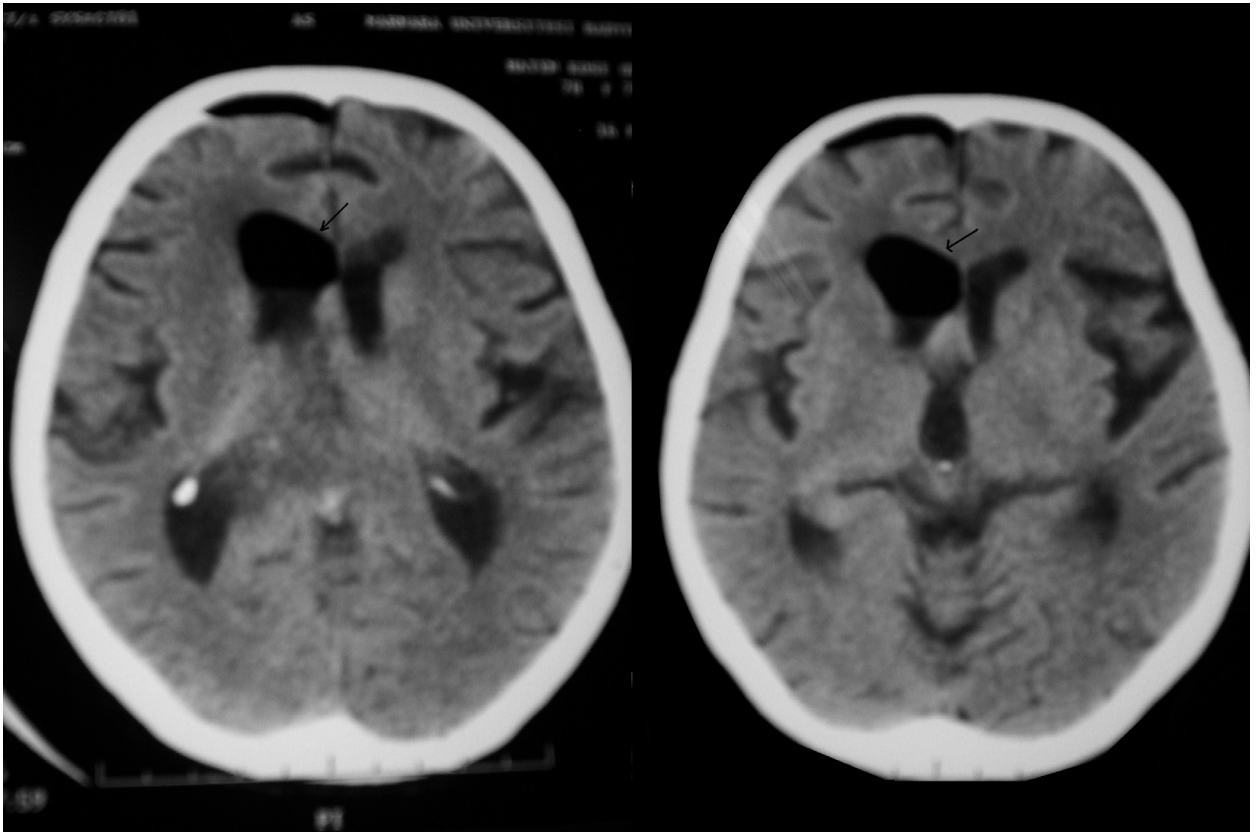


Figure 1. An axial view of lesion with computerized tomography (CT) scan after stereotaxic biopsy. Free air can be seen at the localization of removed mass.

syndromes (Forstl et al 1991, Likitcharoen et al 2004). The incidence is not exactly known but there are some studies which investigated the incidence of RP at specific diagnostic subgroups. For example, the incidence of reduplicative paramnesia was sampled with a structured interview in 50 consecutive alcoholic inpatients. Four had reduplicative paramnesia (RP group) and 46 did not (non-RP group). This study stressed an acute right hemispheric lesion superimposed on chronic diffuse or bifrontal deficit as the neuroanatomical basis for reduplicative paramnesia (Hakim 1988). Even if RP often follow a right frontal lesion, several studies have stressed the importance of bilateral hemispheric pathology. To improve the growing body of literature we report a patient who developed RP, hallucinations and also had a corpus callosum lesion.

CASE

A 71-years-old married, multipara woman admitted to Marmara University Hospital with the symptoms of ataxia and difficulty in talking emerged during the last month before admission. Magnetic resonance imaging (MRI) showed a space occupying lesion at the genu of

the corpus callosum extending through frontal parts of the lateral ventricles. For advanced researches including stereotaxic biopsy she was hospitalized at the neurosurgery ward. On physical examination patient had bilateral hypoactive deep tendon reflexes, left hemihypoesthesia, and ataxia. Stereotaxic biopsy of the intracranial lesion revealed glioblastoma multiforme. After biopsy her control CT did not show any remaining gross mass (see Figure 1). Mental state examination detected severe disorientation to time, spontaneous and rapid speech which is occasionally, visual hallucinations such as mosquitoes and reduplicative misidentifications of her daughter with her bride, the hospital with her home. There was also reduplicative paramnesia about the city she was in (she believed that she was in Bursa and in Istanbul at the same time). Her medical history included only a thyroidectomy operation due to hyperthyroidism 10 years ago. There was no evidence of any kind of dementia or other psychiatric disorders in her psychiatric history taken from herself and as well as from her relatives. According to these through findings the consultation-liaison team of psychiatry concluded that the patient was experiencing the psychotic symptoms associated with the organic brain le-

sion located at the genu of the corpus callosum extending through frontal parts of the lateral ventricles. Risperidone 3 mg/day was added to her treatment regimen. Her delusions and hallucinations were persisting despite antipsychotic treatment at the control visit 3 days after risperidone. After all investigations the patient is discharged to be followed from out-patients clinic.

DISCUSSION

In the reported case most striking symptoms were reduplication of her daughter with her bride, hospital with her home and place where she was living in (she believed that she was in Bursa and in Istanbul at the same time). These were classical symptoms of reduplicative paramnesia. Reduplicative paramnesia is accepted as one of the delusional misidentification syndromes (DMS) which are strongly related with organic brain pathologies especially affecting frontal, temporal, parietal and occipital cortices (Sadock and Sadock 2005).

Reduplicative paramnesia believed to differ from other misidentification syndromes (Capgras syndrome, Fregoli's syndrome, intermetamorphosis, delusion of subjective doubles) by the existence of brain pathology dominantly at the right hemisphere. Some investigators reported that the reduplicative paramnesia suggested a focal non-dominant hemisphere dysfunction (Fuller et al 1993). Murai et al. emphasized relative importance of right hemispheric damage and a possible contributory role of additional left hemispheric damage in RP (Murai et al 1997). It is also controversial that whether a right frontal pathology is sufficient condition for occurrence of reduplicative paramnesia or not. While some studies are emphasizing that focal frontal lesion would not be sufficient to cause reduplicative paramnesia some other studies suggested vice versa (Pisani et al 2000, Kapur et al 1988). A more functional explanation for pathogenesis of RP is that the delusion is secondary to temporal-limbic-frontal dysfunction giving rise to a distorted sense of familiarity and impaired ability to resolve the delusion via reasoning (Moser et al 1998).

In our case the lesion was located at the genu of the corpus callosum and extended through frontal parts of the lateral ventricles. To our knowledge this is the first case reported who developed RP with a corpus callosum lesion. Additionally she did not show any space occupying lesions located at her both hemispheres. Although some authors suggest that a right hemisphere lesion is neces-

sary and sufficient for RP, there is view that a bilateral or diffuse lesions are necessary for RP to occur. Moreover, since the corpus callosum is an interhemispheric structure, lesions of this structure which may interrupt the connection between the two hemispheres can also lead RP.

CONCLUSION

Since RP is a very rare but well defined syndrome, psychiatrist should be aware of symptoms of RP and keep in mind that these symptoms are most probably associated with intracranial pathologies.

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