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Case Report

Psychiatry/Mental Health Section

# Reverse Intermetamorphosis Coexisting in a Case of Capgras Syndrome with Delusion of Subjective Doubles

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## ABSTRACT

'Delusional misidentification syndrome' is a fascinating phenomenon in which an individual misidentifies person, place, object or even themselves and falsely believes that they have been replaced or some sort of transformation has occurred. Capgras delusion, Fregoli delusion, Intermetamorphosis, Delusion of subjective doubles, all these phenomena broadly come under the psychiatric disorder of delusional misidentification syndromes. This case was established by its clinical characteristics along with associated clinical findings, the patient's response to treatment in concurrence with psychological and neuro-cognitive theories. The present case report suggests that these symptomatology of misperception, miscomprehension and misinterpretation of others and of self are probably more prevalent than thought previously and should be actively sought and recognised in patients. This article sought to showcase a phenomenon which had a rare component of Reverse Intermetamorphosis along with Capgras Syndrome and Delusion of Subjective Doubles having no organic component in a 22 year old male patient who responded to pharmacotherapy with neuroleptics. The psychopathological symptoms demonstrating Capgras in itself is rare and inadequately researched. Presence of three distinctive patterns of symptomatology together in one subject is intriguingly unique.

**Keywords:** Delusional misidentification syndromes, Doppelgänger, Olanzapine, Schizophrenia

## CASE REPORT

A 22-year-old male college student was brought to the Outpatient Department (OPD) by his parents for his belief that his parents were not actually his and had been replaced by someone else (Capgras syndrome) which had started 20 days prior to the current consultation and gradually worsened. He believed that his parents had been "superimposed" by impostors. The patient was suspicious of his family members and felt that they wanted to harm him. He had reportedly been staying awake throughout the night and making repeated trips in the parents' bedroom to check their activities. The patient reportedly kept on touching the mothers face and muttering to self that she was not his real mother and "this one" was made of plastic. Due to the fear of being poisoned by the family members he had started to refuse food made at home and had started staying isolated from them.

The patient also believed that a "carbon copy" of him existed (Delusion of Subjective doubles) and that person was trying to somehow harm him and take his place in this world. He was sure that this "other him" had some ulterior motives and wanted to replace him. He mentioned that this copy of his stayed in the same house as him and was scheming with his parents against him. He had allegedly seen this "other him".

Recently the patient had been feeling that at times he was actually his cousin brother and the real him had been kidnapped and sent away somewhere. He felt that he was physically and mentally changing into his cousin and that he was losing his own self and becoming someone else (Reverse Intermetamorphosis).

The patient was unable to attend college due to excessive paranoia leading to hampering of scholastic performance. There had been impairment in various facets of his life due to the same.

No history of past psychiatric illness or substance use was present. No significant family history or history of any genetic disorder, seizure disorder or head trauma could be elicited. The patient's birth and developmental history was uneventful. The patient had a well-adjusted premorbid personality however he revealed having a strained relationship with his real father who pressurised him constantly regarding his performance in school.

Examination revealed the patient was oriented to time, place and person and was cooperative. He was alert and conscious. Eye contact was fleeting and was maintained with difficulty during the interview. Rapport was established with relative difficulty. Vitals including Blood Pressure (BP), Pulse Rate (PR), Respiratory Rate (RR), Temperature and Saturation of Peripheral Oxygen ($SpO_2$) were normal. General and Systemic Examinations did not reveal any abnormalities.

Mental Status Examination revealed a well-groomed male, dressed appropriately to his socio-economic status and age with normal psychomotor activity. The patient was cooperative albeit a little hesitant at the starting of the session. Eye contact was fleeting with the patient glancing suspiciously at his family members repeatedly. He seemed hypervigilant and anxious.

The patient was communicative with spontaneous, soft but coherent speech and repeatedly mentioned about the family members being impostors.

His mood was irritable and congruent to thought. He had a fixed belief that his parents and younger sister were not real and were merely impostors who wanted to harm him. This belief persisted despite evidence to the contrary. There were no other delusions or perceptual abnormalities. His general fund of knowledge was average, insight and judgement was poor. However, there were no memory or cognitive impairments.

Base line investigations did not reveal any abnormalities. Routine blood tests were done and there was no abnormality detected in Complete Blood Count (CBC), Kidney Function Test (KFT), Liver Function Test (LFT), Thyroid function Test (TFT), Fasting Blood Sugar (FBS), Post Prandial Blood Sugar (PPBS) and Blood for B12 and Folate. Serum Prolactin level was normal. Serology for Human Immunodeficiency Virus (HIV), Hepatitis B surface Antigen (HBsAg), and anti-Hepatitis C Virus (Anti-HCV) were non-reactive. Urine for toxicology did not reveal any abnormalities. Electroencephalography (EEG) and Computed Tomography Scan (CT scan) of brain were

normal. Magnetic Resonance Imaging (MRI) of brain did not reveal any abnormalities.

Patient was started on Olanzapine 5 mg which was increased to 10 mg. The patient showed improvement on follow-up sessions and subsequently stabilised on 15 mg Olanzapine. During follow-up visit he was diagnosed as a case of Schizophrenia due to persisting delusions beyond one month.

## DISCUSSION

Misidentification syndromes are psychiatric disorders which mainly involve disparity in the normal process of people recognition. In these cases, patients normally misidentify objects, places, persons or even themselves. They falsely believe that all those things have either been transformed or have been replaced. Reverse Intermetamorphosis is a sub-category of Intermetamorphosis [1,2]. It is a delusional belief where there is a radical change in both physical and psychological identities of the self [3,4].

Most common amongst these syndromes is the Capgras Syndrome or as it is known Capgras delusion. First identified in 1923 by Joseph Capgras and Reboul-Lachaux. In this phenomenon, the patient has a false belief that a familiar person has been replaced by an impostor [4-8]. Courbon P and Fail G first described Fregoli delusion in the year 1927 [9]. Here, the patient believes that a person who is most often not known to the patient is actually in disguise and that person is someone the patient knows. The patient often feels that he is being pursued or he is being persecuted by that person in disguise [7,8]. In Subjective doubles delusion, the patient firmly believes that there is another individual same as him, who exists and who functions independently. It is characterised by a perception that the doppelgänger shares the same identity and personality as the patient himself. He does not only look the same, it actually is the patient's double [10].

In 1932, the syndrome of Intermetamorphosis was first coined by Courbon P and Tusque. They distinguished Fregoli syndrome from Intermetamorphosis by the fact that there is false recognition without false physical resemblance in Fregoli, whereas both are present in Intermetamorphosis [7,11]. In this phenomenon, there is a belief that there is transformation of both physical and psychological identity into someone else and in cases of Reverse Intermetamorphosis syndrome, which is a rare sub-type, the patient believes that he or she has themselves gained a new identity both physical and psychological [12].

There are rare studies showing the division of percentage of the misidentification syndromes one being a study by Silva JA et al., where percentage of Capgras and Intermetamorphosis delusion was found to be 36% and 22% respectively and percentage of Reverse Intermetamorphosis was found to be even lesser [4].

In earlier reports, that was in the period of 1923, patients having Capgras, a rare clinical condition were all females which led to a belief that Capgras in actuality is gender specific, that was in the period of 1923 [13,14]. Murray JR in 1936 reported a case of a male who had this syndrome. Though it is rare, it corroborates the finding of our research article [13]. This case is a typical Capgras syndrome in which the patient misidentifies that his parents are not his own and they have been replaced by imposters associated with a delusion of subjective doubles with a belief that his duplicate resides in his home.

It is a documented fact that in 'misidentification syndrome' individuals tend to misperceive and miscomprehend close people emotionally or geographically as it happened in this patient.

When considering relationship status, the percentage of misidentification accounts for 22% in parents, significantly more in the mother (14%). In the same scenario, spouses or siblings were infrequently misperceived, with percentages of 10% and 7% respectively [4,15].

This present case report is significantly uncommon because the characteristic of Reverse Intermetamorphosis (belief that he is himself changing into another person) is coexisting with the other two syndromes which is rare. Capgras seems to be relatively common amongst the different types of misidentification syndromes. It is reported that the syndromes are mostly associated with right hemispheric lesions with 25%-50% of patients with Capgras having organic aetiology [11,16].

However, our patient did not exhibit any signs of any organic detriment which was corroborated by the documented findings of Bell V et al., in 2017 [17]. In that study amongst 84 cases of identified delusional Capgras syndrome, 40 patients underwent some form of neuroimaging. 14 of them came out with some form of abnormality amongst which diffused bilateral pathology was found in 9. Right-sided pathology was least common [17].

In a more recent study from London mental health trust, out of 34 patients with Capgras delusion 7 had neuroimaging investigations and no cases had any sort of right-sided abnormalities [18].

There was a one-time suggestion that impaired facial recognition which is very similar to Prosopagnosia leads to Capgras delusion. However, the theory was soon discounted [15,19]. In the same study by Pandis C et al., it was reported that the most frequent diagnosis was of schizophrenia, organic psychosis and dementia [15].

An interesting fact in the present case is that the subject believes and perceives that the doppelgänger is residing in the same residence as him and is trying to harm him harboring a motive of replacing him from this world. He however, does not have any suicidal or homicidal thoughts unlike a study done by Barbieri C et al., in 2022 where the subject was homicidal [10]. Just like in the above quoted report where the patient believed that the family was against him, this particular patient also perceived his doppelgänger and his parents as adversaries.

Our patient had autoscopic experience (self-perception). He lacked proper insight of his problem. This occurrence is incorporated by some authors in the definition of doppelgänger phenomenon like Faguet RA, 1979 who defined autoscopy as a syndrome where a vision of oneself is hallucinated with retainment of insight [20]. Our case can be explained in a less restrictive fashion as that of Mora JD et al., 1980 who referred to the phenomenon of duplication of a real person without further qualifying it [21].

Unlike the original Capgras, there is a dilemma in detecting the actual cause of patients having delusion of subjective doubles. It is unclear as documented in a case described by Christodoulou whether the belief is simply abnormal or the patient actually perceives the doppelgänger. There have been attempts to understand the root of these experiences regarding whether these recollections were associated with false memories of familiarity (deja vu) [7]. The case report by Christodoulou GN et al., elaborates upon one of the inadequately researched and remarked upon aspect of delusional misidentification, ie. "the false physical resemblance". In this, a subject looks at a physically distinct face and a judgement is made which is actually an erroneous belief that his own face and body is identical to that one [7].

Generally it has been seen that patients of this type of syndromes view their perceived adversaries with hostility and suspicion. Usually the thoughts are not acted upon but serious threat and injuries have been known to occur. Our patient had suspicion, however, he did not show any hostile attitude towards his parents and did not try to harm others or himself [4,22].

In Reverse Intermetamorphosis i.e., Inverted Intermetamorphosis, the focus is not on the surroundings of the subject but the subject himself [23,24]. Our subject believed himself to be changing into his cousin brother.

In research findings of meta-analysis conducted pertaining to neuroimaging studies of brain and brain networks, indicated

differential affectation in between psychiatric and neurological conditions. In neurological disorders, involvement of basal ganglia, temporal cortex (lateral and medial), insula, medial and frontal cortex was prominent, whereas, cortical affectation of cingulate (anterior and posterior), superior frontal gyrus and also occipital area was disproportionately prominent in psychiatric diseases. This difference in neuro anatomical areas involved is significant in differentiating functional and organic delusion of misidentification syndromes by neuroimaging techniques [15,25].

Due to the rarity of the 'delusional misidentification syndromes' and associated psychopathological variations in current repertoire of available studies, there is a lack of concrete treatment guidelines. The current literature highlights the role of antipsychotics like olanzapine and haloperidol [24,26]. Olanzapine was used in our patient with symptomatic improvement. A study by de León OA and Ovidio in 1992 reported that a combination of haloperidol with valproic acid worked successfully as pharmaco-therapeutic treatment of delusional misidentification syndromes [27]. Another case report, however, countered treatment with neuroleptics to be ineffective and suggested the use of clorazepate [28]. A case reported by Yığ man F et al., 2020 reported non- response with antipsychotics like quetiapine, olanzapine, risperidone and had a significant response only after Electro Convulsive Therapy (ECT) administration [29].

## CONCLUSION(S)

This case is a fascinating psychopathological phenomenon which presented with a vast milieu of psychiatric syndromes which included Capgras syndrome, Syndrome of subjective doubles and Reverse Intermetamorphosis. An adult male with no past psychiatric history presented with a vast psychopathological symptomatology encompassing Capgras, Delusion of subjective doubles and Reverse Intermetamorphosis.

Subtle differences in the nuances between functional and organic cases could be perceived, demonstrated and substantiated by the level of associated psychopathology, the delusional content, the neuropsychological assessment and the biomedical investigations. The present case gravitates towards a functional pathology by presentation of multiple imposters, subjective doubles and additional delusions. Whereas, patients having a neurological pathology mostly report spouse related delusions or present with visual hallucinations.

This unique case elucidated three distinctive psychopathological phenomenon-Capgras, Subjective Doubles delusion and Reverse Intermetamorphosis coexisting in one individual indicating the necessity of more extensive research in this domain.

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