

## Case Report

# Experiencing Pain or Orgasm with Color Synesthesia: A Rare Case in a Young Previously Healthy Male

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### Abstract

**Objective:** Synesthesia is a unique experience with an unclear mechanism. The clinical condition usually presents when a sensation stimulates other senses. While more than 150 types of synesthesia have been reported; however, some types are considered uncommon, and co-occurrence of these rare types of synesthesia are rare. In the present report, we described a case of synesthesia with experience of pain and orgasm in color.

**Method:** A 31-year old healthy male presented with visual equity changes during orgasm. In addition, he described a color-pain sensation every time he experienced severe chest pain during his childhood. None of these sensations negatively affected his daily or sexual life. Based on the patient's history, a possible diagnosis of synesthesia was made and further clinical evaluations were performed.

**Results:** The patient did not have any color vision abnormalities or problems in solving Hooper visual organization test, bells test, Rey complex figure test, card sorting test, and Trail making tests. The Brief Male Sexual Inventory did not reveal any sexual dysfunction. Therefore, regarding the patient's experiences without any visual disturbance and absence of any underlying diseases, the diagnosis of synesthesia was made.

**Conclusion:** The present report demonstrates coexistence of a rare form of synesthesia as orgasm to color with specific pain to color synesthesia. In contrast to previous reports, our case demonstrated color orgasm as a type of synesthesia that might not negatively affect sex life in men.

**Key words:** *Orgasm; Pain; Synesthesia*

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**S**ynesthesia is a rare clinical condition in which the stimuli meant to stimulate one sense stimulates other senses. This neuropsychological phenomenon has received different names since its introduction in the eighteenth century (1). The first case of synesthesia, as we know it today, was introduced by Austrian Georg Tobias Ludwig Sachs who reported that people with synesthesia experience specific sensations concomitant with unusual secondary feelings (1). Although earlier studies considered synesthesia an extremely rare phenomenon, a recent clinical report demonstrated that the prevalence of synesthesia is around 4% in the population (2, 3). Moreover, prevalence of synesthesia in some specific populations, including those studying the arts, is reported to be higher than 7% (4). Individuals with synesthesia experience various sensations, as more than 150 different manifestations are reported in the literature (5). Although there are no specific criteria for the diagnosis of synesthesia, the phenomenon had three main characteristics. Synesthesia has automaticity meaning that it cannot be controlled or inhibited by the patients. Second, the sensation is consistent, and some individuals may experience synesthesia from childhood. Third, the sensation reliably experiences the response when a specific trigger stimulates the phenomenon (6). Among various types of synesthesia, some manifestations are rarely reported. Colored pain and orgasm in colors account for 2.5% and 1% synesthesia, respectively (7). Moreover, co-occurrence of different types of synesthesia is also very rare, and up to now, there is no published report about concurrent synesthesia involving both pain and orgasm in color. In the present article, we will discuss a case of synesthesia with experience of pain and orgasm in color.

## Case Report

### Case information

Mr. R is a 31-year-old married Caucasian male living with his wife and he is a medical doctor (general practitioner or GP). There was no positive history of psychiatric illness in his family history, and there were no remarkable medical findings or abnormal growth and development in his childhood. He self-prescribed Sertraline (25 mg once daily) for three months since he had been experiencing obsessive-compulsive disorder symptoms. Mr. R stated that during his second decade of life, he experienced multiple episodes of chest pain for which he was investigated and diagnosed with mitral valve prolapse; however, he did not receive any specific medication.

### Ethics approval

The principles outlined in the Declaration of Helsinki regarding human experimentation have been met.

### Consent

An informed consent form was taken from the participant.

### Case history

Mr. R was referred to our psychiatry clinic because of a bizarre sensation during his recent intercourse. He stated that during his orgasms (orgasmic phase), he experienced visual equity changes whenever his eyes were open, and he saw objects sharper and brighter than usual. He described these changes as "high contrast vision with dominant pink color everywhere" and said that the environment became brighter as it was early morning even if the environment was dark. When we explained to him that this finding could be considered synesthesia and also explained other types of synesthesia, he stated that he experienced other bizarre feelings when he was younger and whenever he had chest pain sensation. He explained that every time he had severe chest pain because of his valvular heart disease in childhood, he felt "white". The "white" feeling was not sensed during any other types of pain. The severe chest pains did not continue to adulthood, and, therefore, he did not experience the "white" feeling in adulthood. The "white" feeling was not associated with any visual disturbances, and he could differentiate the "white" feeling with other possible sensations, including lightheadedness, reported by most cases with mitral prolapse due to orthostatic hypotension.

### Further examinations

He did not have any color vision abnormalities or problems in solving the Hooper visual organization test, bells test, Rey complex figure test, card sorting test, and Trail making test (8-11). Moreover, he scored 125 (sum of both open and closed eye scores) on the Vividness of Visual Imagery Questionnaire (VVIQ). The Brief Male Sexual Inventory did not reveal any sexual dysfunction (12, 13). Regarding the patient's experiences and these examinations, a diagnosis of synesthesia was made for him.

## Discussion

The present article briefly reported two rare types of synesthesia in a young male. The orgasm in color is among the rarest types of synesthesia which is challenging to diagnose. In contrast to other types of synesthesia that questionnaires or visual studies could test, the orgasm to color synesthesia is challenging to study as there is no previous experimental study available for provoking the synesthetic sensation (14). One of the main issues that should be considered in evaluating synesthetic individuals is their developmental history. Although our patient did not have a history of abnormal growth or development, some authors suggested that synesthesia is more common among autistic patients (15). There is growing evidence suggesting the possible relationship between synesthesia and psychiatric disorders, including anxiety, post-traumatic stress disorder, and even schizophrenia (15). Moreover, a recent study by Rinaldi *et al.* demonstrated

that synesthesia is more likely to be related to specific personality traits, including openness to experience among the pediatric population (16). In our approach for evaluating the case, we first differentiated the acquired types from developmental forms of synesthesia. While it has been demonstrated that synesthesia might be induced by underlying medical illnesses, including migraine and seizure and using hallucinogens, our case did not have a previous history of such conditions (17, 18). Moreover, Sertraline was self-prescribed after recognition of synesthesia, and, therefore, drug-induced synesthesia has been ruled out in our case. We decided to rule out every possible visual problem related to the synesthetic sensation in the next step. Our case did not show any difficulty in various visual challenge tests. Then, we took the detailed history of the synesthetic experience during sexual intercourse, as it has been demonstrated that synesthesia might be cited differently during human sexual response phases. It has been reported that some individuals experienced each of the sexual phases with different colors and various intensities, initiating with experiencing an orange character appetite phase to yellow and pink in the resolution phase (14).

In our case, synesthesia only appeared in the orgasmic phase of sexual intercourse. While some studies demonstrated that synesthesia could affect sexual satisfaction, we decided to evaluate the sexual function of our case. According to Mosher's theory regarding sexual satisfaction, the three dimensions, including "role enactment", "engagement with the sex partner", and "sexual trance" are the main factors. Emphasizing one dimension may negatively affect overall sexual satisfaction (19). Nielsen *et al.* demonstrated that females would show decreased overall satisfaction; however, their synesthetic experience could increase their level of sexual appetite (14). Therefore, the authors concluded that synesthesia in females might increase "sexual trance" and result in paying less attention to the "engagement with the sex partner" (14). We believe a similar conclusion could not be made, as our case did not have any sexual dysfunction and was satisfied with his sexual life. We did not provide further diagnostic workups because our case did not have any daily activity and sexual life difficulties.

Although physicians may not be good cases for research, we believe that our case report has some significant limitations. First of all, although some reports indicate that synesthesia may have variable severity and consistency, synesthesia is commonly considered a consistent sensation (20). Our case began experiencing the sensation because of an unknown trigger in his life, and he could not remember if the sensation was present in his earlier orgasm. Moreover, the pain-color synesthesia was only experienced with chest pain since childhood which is not common for pain-color synesthesia which has been reported with almost every type of pain in one individual.

## Limitation

One of the main limitations of the present study was the absence of further studies including brain functional imaging workups which could provide more diagnostic clues in some patients.

## Conclusion

Coexistence of different types of sensory perception with color is rare without a clearly understood mechanism. In contrast to previous reports, our case demonstrated that colored orgasm as a type of synesthesia might not negatively affect sexual life in men.

## Acknowledgment

None declared.

## Conflict of Interest

None.

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