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Case Series *Volume 7 Issue 1*

Post Covid Cacosmia - A Dreaded Complication

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Abstract

Olfactory dysfunction is one of the key symptoms of virus neuro tropism and olfactory cleft has been posed as the portal of entry. With the emerging pandemic, this has become one of the most distinct symptoms of COVID infection. Smell disorders have a major impact on quality of life. Impaired smell affects the capability to appreciate odours of food; environment and can subsequently lead to weight loss and malnutrition, depression, psychological stress and even failure to recognise dangerous chemicals. In this article 16 COVID positive patients who presented with have been followed up to assess the outcome. 15 out of 16 patients were treated based on the algorithm and followed up to know the outcome. One patient denied any treatment and is on routine follow up.

Post COVID cacosmia is an overlooked yet dreaded complication of COVID-19 infection that affects the quality of life of the subjects. Intranasal steroid spray is the corner stone to treatment with routine follow up and reassurance to maintain treatment adherence. Oral steroids play major role in refractory cases. Co morbidity immunosuppression and other nasal pathologies seem to play little or no role in the pathogenesis. Involvement of other speciality medics like psychiatry and clinical psychologist plays a pivotal role in certain cases. Persistent reassurance is the key to successful treatment result.

Keywords: COVID-19; Cacosmia; Complication; Quality of life

Introduction

Olfactory dysfunction is one of the key symptoms of virus neuro tropism and olfactory cleft has been posed as the portal of entry [1,2]. With the emerging pandemic, this has become one of the most distinct symptoms of COVID infection. Even though fever, cough, fatigue, dyspnoea, sore throat etc has been early symptoms, post COVID-19 smell disorders cannot be ignored [3]. As of December 2020, there have been over 75 million cases since the start of the pandemic [4]. According to the data, there have been more than 35 million of them suffering from smell disorders. For the high prevalence among COVID-19, smell disorders have been included in the official lists of symptoms worldwide [5]. Many publications have come up highlighting the same, and more research needs to be imposed in this direction [6]. A previously published systematic review suggests a prevalence of self-reported smell disorders in 50% of patients with COVID-19 [7,8]. Smell disorders have a major impact on quality of life. Impaired smell affects the capability to appreciate odours of food; environment and can subsequently lead to weight loss and malnutrition, depression, psychological stress and even

failure to recognise dangerous chemicals. It has also been also associated with increased mortality [9] thus making it an urgent need to seek effective management.

Here i present a series of 16 COVID positive patients who presented with cacosmia including presentation, investigation and management.

Series

Case 1

32-year-old male who became COVID positive in April 2021, presented with foul smell and taste for two months. The symptoms started approximately 45 days post COVID positivity. The foul smell was particularly noted for egg, poultry, onion and spicy food items, detergent, certain soaps, toothpaste and perfumes. He also noted foul smell in his urine and stool. As there was minimal symptomatic relief and obstructive symptoms, he was subjected to CT PNS, to rule out sinus collection and fungal sinusitis. DNE was done in order to rule out any polyps, congestion and mucosal changes secondary to the viral infection. He was started on intranasal steroid after a short course of antibiotics. There was gradual improvement in smell with complete recovery after 3 months of therapy.

Case 2

26-year-old male who became COVID positive in July 2021 developed foul smell and taste approximately 30 days post infection. The foul smell was noted especially for soaps, deodorants which all presented as a single smell of unpleasant pungent nature. Egg, meat and poultry had the smell of decayed food. Fried meat had the smell of cigarette. Body odour was also had a foul smell. He did not seek any medical advice during the first attack of the viral infection. The symptoms diminished on its own but he was never completely free of cacosmia. He contracted COVID the second time in January 2022 when he developed post COVID cacosmia 2 weeks later. The symptoms were similar to the first episode. He took medical advice and is on nasal spray. As there was not much improvement 3 weeks after initiation of treatment, he underwent CT-PNS which showed no abnormalities. Hence, he was started on 5 days of deflasacort 12 mg per day with continuing nasal spray. Post 3 months of therapy he is almost completely relieved.

Case 3

15-year-old male patient presented with foul smell in nose in August 2021, 6 weeks after testing positive for COVID-19. The foul smell was noted egg, meat and poultry. He did not experience foul smell for any other substances. He took medical advice and was started on nasal spray. Post 10 weeks of therapy he was completely relieved off the symptoms.

Case 4

34-year-old female presented with cacosmia to meat and egg following COVID -19 infection. She presented to us with symptoms that started 4 weeks after contracting the infection in August 2021. She also had foul smell to onion and garlic and certain soaps and detergents. She was initially treated with antibiotics mucolytics and nasal douching in view of sinusitis and was later put on INSS. She started experiencing relief of symptoms in 3 weeks and completely off symptoms in 3 months of spray.

Case 5

15-year-old girl presented with cacosmia that developed 4 weeks after contracting COVID-19 infection in July 2021. She had foul smell to egg, cheese, ghee, butter, onion and garlic. She also had severe symptoms to soaps, oils and detergents. She was initially started on INSS and was topped up with short course of deflazacort oral tablets. Spray was continued for 3 months after which the smell declined, and she was completely relieved off symptoms in 5 months.

Case 6

29-year-old female who became COVID positive in November 2021 presented with cacosmia in December 2021. She developed symptoms approximately 6 weeks post infection. The symptoms were noted for foods containing oil and masala. She also noted foul smell and similar smells for soaps and detergents all of which smelled like kerosene. The symptoms were so severe she was treated by her physician for anxiety and anxiety induced hypertension. She was started on intranasal steroids which did not relieve her symptoms. Further she was evaluated with CT-PNS and DNE which were both normal. Due to severe symptoms, she was put on oral steroids- methyl prednisolone for 10 days. She is on sprays for the past 5 months with partial relief of symptoms. Foul smell still continues for detergents and soaps. She has been off anti-anxiety medication but is on anti-hypertensives.

Case 7

35-year-old male presented with post COVID cacosmia in August 2021. He became COVID RTPCR positive in June 2021. He came for medical assistance in the month of October. Initially he has hyposmia. In the month of September after which cacosmia started. CT-PNS with CT-Brain was normal. He presented with foul smell and taste to most of the food items particularly non-vegetarian and dairy products. He also experienced foul smell to detergents, sprays and soaps. He was started on intranasal steroid nasal spray. Following the use of spray for 3 weeks he started experiencing relief of symptoms and he discontinued treatment. Presently he has

relief of foul smell in food but he experiences overwhelming flavours in food and reduced appetite.

Case 8

17-year-old male presented with post COVID cacosmia 5 weeks after contracting the infection in November 2021. The foul smell was only for egg and certain soaps which he started avoiding completely. He was started on INSS and started experiencing relief in 2 weeks. He was continued on the spray for 3 months and experienced complete relief in this time.

Case 9

17-year-old male presented with post COVID cacosmia one month after developing COVID -19 in the month of November 2021. The foul smell was particularly noted for dishes containing onion, poultry and foods containing masala. He noted that his sweat was also imparting foul odour. He was started on intranasal steroid spray with decongestants as he had allergy history. He experienced relief of symptoms as early as 10 days of initiation of treatment. He experienced complete relief of all symptoms in one month after which the use of spray was stopped.

Case 10

13-year-old girl presented with post COVID anosmia followed by cacosmia in June 2021. She started experiencing anosmia while she was still positive for COVID which lasted for 2 weeks following which cacosmia started. She had foul smell for egg, meat, fish, detergents, fabric conditioners, sprays, cleaning supplies and certain scented candles. She started avoiding food due to the smell after which they sought medical advice. She was started on INSS and started experience relief in 4 weeks. The spray was continued for 3 months and then stopped after complete relief.

Case 11

13-year-old female presented with foul smell for egg, fish and poultry following COVID infection in July 2021. Symptoms started 3 weeks post infection, and approximately 1 week after becoming COVID negative. She developed symptoms for egg and food containing egg like cakes and other baked foods. She has cacosmia for onion and states that her interest for eating food reduced subsequently leading to weight loss. She was assessed and started on INSS. She showed symptomatic relief in 3 weeks of initiation of treatment and was completely free of symptoms in 3 months.

Case 12

24-year-old male presented with post COVID cacosmia in the month of August 2021. He started experiencing the symptom 5 weeks post infection. The foul smell was there only for egg. He was started on spray and was completely relieved in 6 weeks.

Case 13

28-year-old male presented with cacosmia 5 weeks after contracting COVID 19 in June 2021. He experienced cacosmia to poultry, milk, cheese and mayonnaise. He was started on INSS and experienced complete relief in 3 months.

Case 14

28-year-old female presented with cacosmia that started in June 2021. She tested positive for COVID-19 in May 2021, and the symptoms started 3 weeks after this. Her symptoms were unique in the aspect that she felt foul smell in nose when she gets up after a nap. The smell was characteristically that of infected phlegm. The constant smell in nose caused her significant distress and reduced appetite. She did not notice any cacosmia for food items or other substances, unlike other patients. She was started on intranasal steroid spray. She underwent DNE with infective pathology in mind, which was normal. She was also topped up with a short course of antibiotics, saline douching and mucolytics. She had a drastic relief of symptoms on using nasal spray for less than one month with near complete relief in 4 months. She used the spray for 3 months and stopped when her symptoms were acceptable.

Case 15

29-year-old female presented with cacosmia that started in December 2020. She tested positive for COVID-19 three weeks prior to the symptoms. She had cacosmia to onion, garlic, cheese and meat. She changed her diet to vegetarian and onion free cuisine. She experienced gradual relief of symptoms after 6 weeks and complete relief in 3 months. She developed cacosmia for the second time in November 2021, post COVID in 3 weeks duration for which she approached for medical treatment. She was started on intras=nasal steroid spray with decongestants. She showed significant symptomatic relief in 4 weeks and complete relief of symptoms in 4 months. She stopped her spray following this and has been symptom free ever since.

Case 16

68-year-old patient presented with post COVID cacosmia that developed 4 weeks after COVID positive status in the year 2021. She was offered treatment but denied intervention and hence taken as control. She developed cacosmia to dairy products like cheese, milk and curd and onion and garlic. She also had cacosmia to detergents, fabric conditioners, naphthalene balls, camphor and other effervescent scented items. She was a vegetarian. She has partial relief of symptoms

and still experiences cacosmia to onion. She still avoids this in diet and denies treatment.

Methods and Methodology

15 patients who have been previously diagnosed with COVID-19 who presented to OP with cacosmia were followed up. Consent and patient questionnaire were handed over in native language. All of them were started on intranasal steroid spray – fluticasone furoate 100mcg twice a day to be instilled in both the nostrils. Patients were followed up and a detailed history regarding improvement in symptoms was noted. All those who responded well were continued on the spray till complete recovery was obtained. Those with suboptimal response were added on with oral steroids – either deflazacort or methyl prednisolone for a short duration of 5-10 days, topped with nasal saline douching. All the patients who did not have any initial response were taken up for NC-CT scan of the paranasal sinuses to rule out fungal etiology or anatomical variations at the olfactory cleft. Those who presented with obstructive symptoms were further evaluated with Diagnostic Nasal Endoscopy.

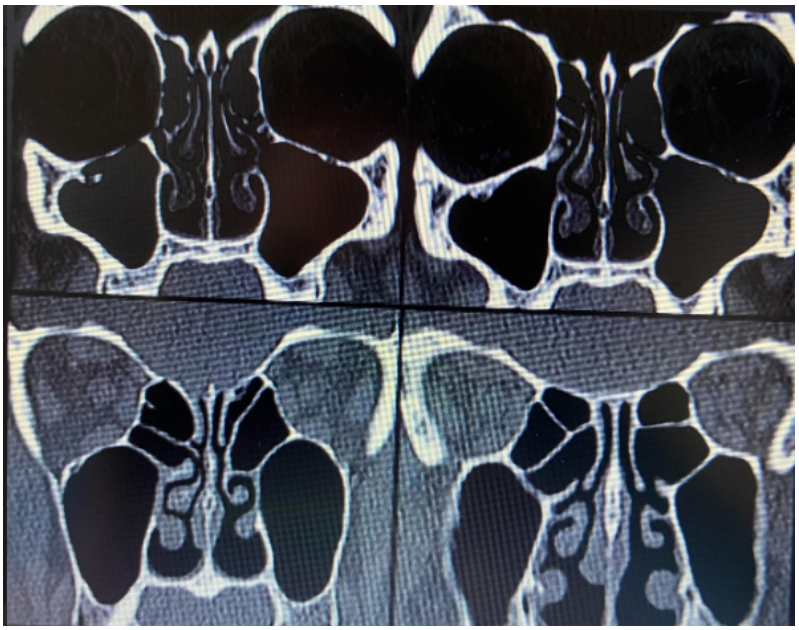

Figure 1: CT-PNS findings

Figure 2: Diagnostic Nasal Endoscopy findings.

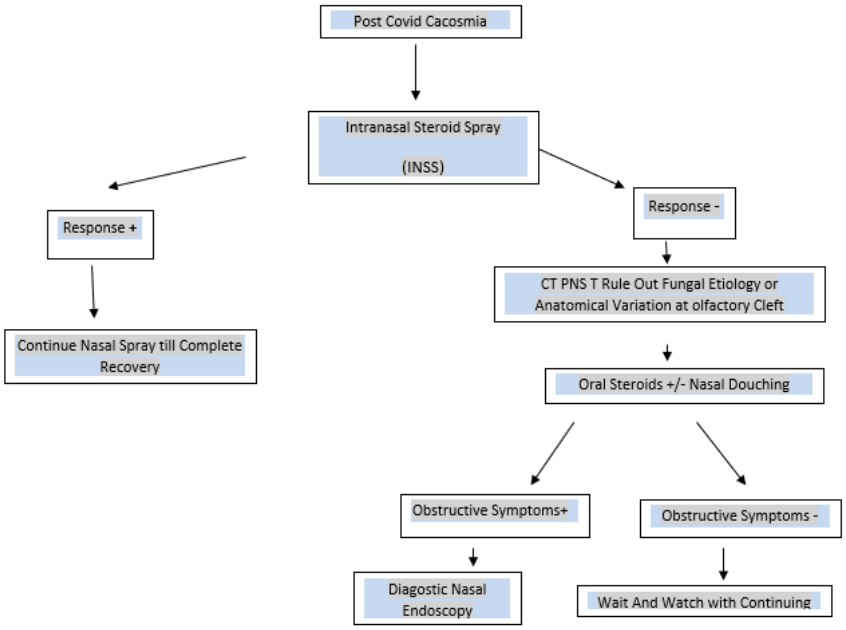

Figure 3: Treatment Algorithm.

Case Number	Time Since Covid +Ve	Cacosmia Inducing Materials	DNE/CT	INSS	Oral Steroids	Response (C,P,N)
1) 31,M	45 Days	Egg, Poultry, Onion, Spices, Masala, Soaps, Detergents, Toothpaste, Perfumes, Urine and Stool	CT DNE	+	-	C 3 MONTHS
2) 26, M	15 Days	Soap, Deodorant, Egg, Meat, Sweat	CT DNE	+	+	C 3 Months
3) 15/M	45 Days	Egg, Meat, Poultry	-	+	-	C 2.5 Months
4) 34/F	30 Days	Egg, Meat, Onion, Garlic, Soaps, Detergents	-	+	ANTIBIOTICS, MUCOLYTICS, NASAL DOUCHING	C 3 Months
5) 15/F	30 Days	Egg, Oil, Soap, Cheese, Butter, Ghee, Onion, Garlic, Detergents	-	+	-	C 5 Months
6) 29/F	45 Days	Oil, Masala, Soap, Detergents	CT DNE	+	+	P
7) 35/F	30 Days	Dairy Products, Detergents, Soaps and Sprays	-	+ DEFAULT TREATMENT	-	P
8) 17/ M	35 Days	Egg, Soaps	-	+	-	C 3 Months

9) 17/M	30 Days	Onion, Poultry, Masala , Sweat	-	+	-	C 4 Months
10) 13/ F	15 Days	Egg, Meat, Fish, Detergents, Fabric Conditioner, Sprays, Cleaning Supplies,	-	+	-	C 3 Months
11) 20/F	20 Days	Fish, Egg, Poultry, Onion	-	+	-	C 3 Months
12) 24/ F	35 Days	Egg	-	+	-	C 2 Months
13) 28/M	35 Days	Poultry, Milk , Cheese, Mayonnaise	-	+	-	C 3 Months
14) 28/F	20 Days	Increase After Naps- Smell of Phlegm	DNE	+	-	C 3.5 Months
15) 29/F	20 Days	Onion, Cheese, Garlic, Meat	-	+	-	C 2 Months
16) 68/F	30 Days	Cheese, Milk, Curd, Onion, Detergents, Scented Items	-	-	-	N

Inference

Among 16 cases of post COVID (serology proven) cacosmia patients, 15 of them were treated based on the algorithm. One patient declined to take treatment and is on routine follow up. All the patients except the control were younger individuals of the age group 13- 35 years. They all developed symptoms between 2 to 6 weeks of turning COVID -19 seropositive. Six out of sixteen were males and the rest (ten) were females. Most common items for which the patients experienced foul smell was egg and poultry followed by household detergents. All of them were started on intra nasal steroid sprays and 2 of them had to be topped up with oral steroids based on algorithm. Complete recovery was seen in 12 of them while partial recovery in 3. The patient who denied treatment still has symptoms- 2 years since contracting the infection, but the severity has reduced considerably. Response was seen within an interval as short as 2 months. The longest duration of treatment needed was for 5 months. Severe symptoms needing anxiolytics was seen only in one patient.

Discussion

Post COVID cacosmia is an overlooked yet dreaded complication of COVID-19 infection that affects the quality of life of the subjects. Intranasal steroid spray is the corner stone to treatment with routine follow up and reassurance to maintain treatment adherence. Oral steroids play major role in refractory cases. Co morbidity immunosuppression and other nasal pathologies seem to play little or no role in the pathogenesis. Involvement of other speciality medics like psychiatry and clinical psychologist plays a pivotal role in certain cases. Persistent reassurance is the key to successful treatment result.

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