GP CONSULTATION

ALLIANCE
ADVANCING TOGETHER IN ALLERGY CARE

ASTHMA AND EGG ALLERGY

PATIENT 3 -GABRIELA (22 YEARS OLD)

"For the last couple of weeks, I have had **difficulty breathing and a really bad cough.**

My symptoms seem to be on and off, but **I feel like they are getting worse.**

My chest feels like it is getting **tighter and tighter** during each attack and I don't know what I can do to stop it."

1. MEDICAL HISTORY

- No family history of allergy or asthma
- Has had atopic dermatitis from the age of 5 and was prescribed topical steroids for any flare-ups. Flare-ups are seasonal, often occurring in the summer
- Has had a runny nose and an itch in the back of her throat and mouth after eating several meals in the last 9 months
- Has been very stressed in the last couple of months due to her PhD and has taken up exercise 4 times a week to manage her stress
- Is a life sciences research student at a local university – works in an embryology laboratory, dissecting hen's eggs
- Exacerbations and breathing symptoms are milder on weekends
- Non-smoker and no pets

2. PHYSICAL EXAMINATION

- Wheezing
- No obvious obstruction is observed in the upper airways

3. GP INVESTIGATION

"Gabriela may have developed asthma. She experiences **bad coughs, difficulty breathing and has a tight chest.** These are all key symptoms associated with asthma.

Gabriela's asthma **may be occupationally induced** as symptoms seem to **improve when she is away from the lab.**

She may also have **an allergy to a food and/or an aeroallergen."**

4. TEST RESULTS

- Lung function tests were carried out:[1]
  - Spirometry – FEV1/FVC = 0.7
  - Bronchodilator reversibility test was positive (an improvement in FEV1 of 14%)

5. GP ACTION

Gabriela's spirometry and bronchodialtor reversibility test results show that she has developed asthma.

She was told to highlight the situation to her lab supervisor/ manager. [2]

A short-acting beta-2-agonist (SABA) and low dose of inhaled corticosteroids were prescribed for her persistent breathing symptoms.[1]

Gabriela was referred onto an occupational asthma specialist/allergist to explore the trigger of her asthma.[1]
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ALLERGIST CONSULTATION

"Her **medical history was taken** and a **physical examination** was carried out again.

Gabriela explained that her symptoms are **slightly better controlled with her prescription** but still has **difficulty concentrating at work**. Her rhinorrhoea hasn't improved and the **itching sensation in her throat and mouth remains**.

I will carry out allergen sensitisation testing using specific IgE blood tests to a range of lab-related aeroallergens and prevalent aeroallergens that may be triggering her symptoms."

1. TEST RESULTS

Specific IgE was carried out for:

- Whole eggs (18.9 kU_A/l), latex (0.2 kU_A/l), mouse epithelium, serum proteins and urine proteins (0.18 kU_A/l), dog dander (0.1 kU_A/l), cat dander (0.23 kU_A/l), dust mite (*D. pteronyssinus:* 0.14 kU_A/l), *Alternaria alternata* (0.32 kU_A/l) birch tree pollen (0.11 kU_A/l).

2. ALLERGIST

"Gabriela's specific IgE tests show that she is **sensitised to egg**. Occupational allergy to eggs is rare but can occur in **embryological researchers and bakers.**[3,4] Egg allergies in adults can also be caused by **'bird-egg syndrome'**. This is due to shared IgE epitopes of hen feathers, budgerigar feathers and egg yolk alpha-livetin.[5] I will begin by carrying out **component-resolved diagnostics for a range of egg allergens** and I will **refer her to a hospital for a specific inhalation challenge test** with an occupational physician."

3. TEST RESULTS

- Component-resolved diagnostics: Specific IgE to ovomucoid (Gal d 1, 16.1 kU_A/l), ovoalbumin (Gal d 2, 13.5 kU_A/l) and alpha-livetin (Gal d 5, 2.1 kU_A/l)
- Bronchial challenge carried out with hen's egg confirms Gabriela's allergy to hen's eggs

4. ALLERGIST ACTION

Gabriela was told to take extra care in reducing her exposure to egg and was advised to eliminate it from her diet. She was also advised to:

- Carefully read ingredient labels on foods[6]
- Take extra care when consuming food prepared by others[6]
- Change projects or move labs so that she is no longer exposed at work
- Be aware that symptoms may occur with exposure to poultry[7] – if this is the case, she should return to the clinic for a consultation

5. REFERENCES

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