



## GP CONSULTATION

“My nose is stuffy and I feel like I can't breathe properly when I go to bed.

My eyes are also very itchy. I can't focus at school, go out with my friends or play with our new puppy because I have to keep wiping my nose and rubbing my eyes.”

### 1. MEDICAL HISTORY



- No personal history of asthma or allergies
- Mother has a history of asthma and allergies (cat dander)
- Previously diagnosed with mild eczema between the ages of 5–7 but symptoms have resolved since and there have been no flare-ups. Triggers of the previous flare-ups were not identified
- Both emollients and topical corticosteroids were used to manage flare-ups in the past
- Itchy, red eyes were the first symptoms, which appeared ~8 weeks ago
- Nasal symptoms appeared ~6 weeks ago
- Has been using nasal irrigation with saline after consulting a pharmacist but this has provided limited relief
- Within the last two weeks, wheezing can be heard when Jessica is sleeping and she often wakes up in the middle of the night struggling to breath
- Has had a cough for 3 weeks
- The family have a new puppy – this is their second dog and they have had it for ~9 weeks
- Previous dog passed away 10 years ago (Jessica was 6 years old and the dog was in the family home since her birth)
- The puppy sleeps on Jessica's bed most nights

### 2. PHYSICAL EXAMINATION



- Expiratory polyphonic wheeze
- Coughing
- Nasal congestion
- Infraorbital folds under the eyes
- Rhinorrhoea
- Red eyes
- Skin is clear with no signs of eczema

### 3. GP INVESTIGATION



“ Jessica appears to have allergic rhinitis.<sup>1</sup> According to her medical history, her symptoms seem to coincide with the introduction of the new puppy into the home. I will test for sensitisation to a panel of aeroallergens including dog dander.

I will also carry out a bronchodilator reversibility test and spirometry test as Jessica has developed a cough, breathlessness and wheeze, which are symptoms of asthma.”

### 4. TEST RESULTS



Spirometry test: FEV<sub>1</sub>/FVC ratio: 0.7

Bronchodilator reversibility test: FEV<sub>1</sub> improved by 15%

Specific IgE: *D. farinae* (0.1 kU<sub>A</sub>/l), cat dander (0.9 kU<sub>A</sub>/l), dog dander (14.2 kU<sub>A</sub>/l), *Alternaria alternata* (0.5 kU<sub>A</sub>/l).

### 5. GP INVESTIGATION



“ In addition to allergic rhinitis, Jessica also has asthma.<sup>2</sup> Her specific IgE shows that she is predominantly sensitised to dog dander.

As her symptoms coincide with exposure to her new pet, it is likely that her puppy may be triggering her symptoms.

After taking Jessica's parents aside and explaining that the best approach would be to remove the pet from the family home, it appeared that re-homing the pet is a very delicate matter for both Jessica and her family.”

### 6. GP ACTION



Jessica was prescribed a low dose of inhaled corticosteroid and long-acting beta-2-agonist (LABA) as a maintenance therapy and a short-acting beta-2-agonist (SABA) inhaler to be used when needed.<sup>2,3</sup>

She was shown how to use each inhaler correctly.<sup>2</sup> To manage her rhinitis, she was also prescribed a first-line intranasal antihistamine.<sup>1</sup> Exposure reduction advice was offered to the family to help reduce her symptoms.<sup>1,2</sup> For example, it was advised to restrict the puppy to the kitchen and to wash the dog and any surfaces that the dog is in contact with regularly.<sup>1</sup>

Over the following 6 weeks, Jessica returned to the clinic twice. She was prescribed a regular nasal corticosteroid.<sup>1</sup> Her asthma symptoms have worsened and her allergic rhinitis is still problematic. Jessica was referred to a specialist for further allergy testing and management.<sup>1</sup> (See next page)



## ALLERGIST CONSULTATION

Looking at Jessica's medical history and specific IgE test, it seems that her asthma and allergic rhinitis appear to be **triggered by the new puppy** in the home.

Although exposure to the puppy is problematic for Jessica, the family are very upset and want to keep their pet. The dog is a male puppy so I will **test to see if Jessica is sensitised to the allergen Can f 5**, a prostatic kallikrein found in male dogs.<sup>4</sup> If she is only sensitised to this allergen, the family **may then have a female dog in the home** and Jessica may be relieved of her symptoms.<sup>4</sup>

### 1. TEST RESULTS

Component-resolved diagnostics:

- Can f 1 (0.4 kU<sub>A</sub>/l)
- Can f 2 (0.3 kU<sub>A</sub>/l)
- Can f 5 (12.2 kU<sub>A</sub>/l)



### 2. ALLERGIST ACTION

It was recommended that the family's current puppy is re-homed as Jessica is sensitised to the prostatic kallikrein Can f 5. It was explained that they could have a female dog in the home instead.

The patient was also told that those who are sensitised to Can f 5 may show allergic reactions to seminal fluid due to cross reactions.<sup>4</sup> If such a reaction occurs, she was told to return for a consultation.



### 3. REFERENCES

1. NICE CKS. Allergic Rhinitis. 2018. Available at: <https://cks.nice.org.uk/allergic-rhinitis> [accessed October 2019]
2. NICE CKS. Asthma. 2018. Available at: <https://cks.nice.org.uk/asthma#> [accessed October 2019]
3. GINA. Global Strategy for Asthma Management and Prevention. 2019. Available at: <https://ginasthma.org/wp-content/uploads/2019/04/GINA-2019-main-Pocket-Guide-wms.pdf> [accessed November 2019]
4. Matricardi PM, Kleine-Tebbe J, Hoffmann HJ, et al. (Editors). Molecular Allergology User's Guide. 2016. Zurich: European Academy of Allergy and Clinical Immunology

