Educating for More Effective Allergy Treatment

As in most industrialized countries, allergies are also on the rise in Japan. Parents are often unaware that early diagnosis can lead to effective treatments in children. With the help of a network of educators, pediatrician Dr. Hiroshi Odajima has succeeded in effectively treating an increasing number of allergies. Meanwhile, dermatologist Dr. Michihiro Hide hopes to find a cure in the not-too-distant future.

“If children are treated adequately and at an early stage, thanks to very good new therapies, allergies hardly interfere with the person’s quality of life,” says pediatrician Hiroshi Odajima, MD, Deputy Director of Fukuoka National Hospital and pediatric allergist. “Unfortunately, too many parents think that allergy therapies are not necessary or not successful,” explains Dr. Odajima. He often has to treat children who do not start treatment until the symptoms are almost unbearable. However, the longer treatment is delayed, the greater the risk that the patients may have to live with considerable limitations in their daily activities, despite therapy. “When left untreated, allergy symptoms become chronic over time. Anything that is not treated before puberty has little chance of being reversed,” warns Dr. Odajima.

Allergies as a Widespread Disease
While allergic rhinitis in the form of pollen allergies dominates among adults, the most frequent allergic reactions in children are atopic dermatitis (such as eczema), asthma, and food intolerances.

Regular surveys of elementary-school children in 11 western Japanese prefectures, showed Dr. Odajima in 2012 that more than half of the children had already experienced allergic
diseases. More than 20 percent of all Japanese students, including middle- and high-school students, have had one or more allergic diseases, according to a 2004 study by the Japanese Ministry of Education’s Research Committee on Allergic Diseases.

New Educational System for Patient Motivation

Educational work is extremely important to slow down or stop the advance of allergies toward more serious symptoms, says Dr. Odajima. “We must also reach the children who do not visit the hospital regularly,” explains the pediatrician, who has almost 40 years of experience in the field of allergies. Doctors and educators must motivate their patients time and time again to prevent them from terminating sometimes lengthy therapies, or encourage them to start therapy in the first place.

For this reason, Dr. Odajima launched the Pediatric Allergy Educator system in Japan five years ago. Similar to the American system of certified asthma educators, it relies on the expansion of duties of nurses, dieticians, and other medical staff members. Since 2009, these occupational groups have the opportunity to train and become certified allergy educators.

They are then sent regularly to schools and other educational facilities, where they hold allergy courses for students, parents, teachers, and local decision-makers and talk about the necessity of early diagnosis and treatment. Helping them is the children’s book Mickey and the Giant Kachoo! that Siemens and the Walt Disney Company have created to educate kids and parents about the diagnosis and management of allergies.

“I expected their mothers would pay attention to the lecture but not the one- or two-year-old kids. I was wrong. Mickey Mouse was amazing in making all the kids listen to the talk seriously and not get tired of it,” says Dr. Odajima. There are currently around 200 certified allergy educators. “Not nearly enough,” laments Dr. Odajima, “but it is a good start.”

Raising Awareness is the Biggest Challenge

These educators usually receive positive responses to their classes, although they always illustrate how little their audience knows about allergies, says Dr. Odajima. Allergies are often very difficult for people to understand, especially since it is still unclear why some people develop them and others do not. The fact that there is no simple causal treatment and cure leads to incorrect assumptions, such as the idea that doctors are powerless against allergies and people should therefore treat them on their own, reports Dr. Odajima.

According to a study by the Ministry of Education from December 2013, of the approximately 454,000 students claiming to have food allergies, only about two percent were found to
Teaching kids in a language they understand: Allergy educators show them a specially developed children’s book named Mickey and the Giant Kachoo!, for example.
Doctors at Fukuoka National Hospital and Hiroshima University Hospital make use of a highly sensitive allergy test by Siemens for objective and accurate diagnosis.
have received doctors’ diagnoses. The vast majority did not have a professional diagnosis or therapy. By visiting the schools, the doctors and allergy educators are able to motivate these children to have their allergies regularly checked and treated by a doctor, states Dr. Odajima.

**Educators Trained In-house Improve Therapy Success**

According to Dr. Odajima, these educators have become indispensable, helping doctors in everyday hospital routines. “We do not have enough time to teach patients how to treat their neurodermatic skin rashes, or how to correctly inhale with asthma,” he admits. Therapy success depends largely on how well patients can follow their educators’ therapy instructions in their everyday lives, he explained.

His educators now gather reports from patients on their experiences and work together with them to find solutions that are suitable for daily use. For example, in three-day hospital stays for young patients with extremely sensitive skin, educators work with the children and their parents to come up with a skincare program that is tailored to their specific needs.

**Accurate and Objective Tests Help Optimize Individual Therapies**

Along with his educators, Dr. Odajima also relies on objective and accurate allergy tests to determine the best therapy for each patient. The highly sensitive 3gAllergy® test by Siemens helps him make an accurate diagnosis, along with the patient history of allergen exposure and physical symptoms. In addition to the 11 assays that Siemens has specially developed for the Japanese market, the system’s large measurement range and extremely low detection limit for allergen-specific immunoglobulin E (IgE) are a great help. In this way the success of a treatment can still be monitored with repeat test measurements over time. This works even in patients with extreme levels that far exceed the maximum and minimum levels detectable with some other tests. “If I see that the IgE level is no longer increasing, I dare to try to test how severely the patient still responds to the allergy-triggering food by asking him/her to eat the food,” explains Dr. Odajima. Without the certainty that the IgE level has passed its peak, “food challenges” like this are often too dangerous, due to the risk of anaphylactic shock. Now, however, he can prevent children from completely eliminating food that is essential for nutrition, says Dr. Odajima.

**Hope for a Cure – At Least for Atopic Dermatitis**

“Unfortunately, with the current methods, we can only reduce the allergy symptoms,” explains dermatologist Dr. Michihiro Hide from Hiroshima University Hospital. “This is an important step, but I want to cure allergies,” he says. The example of atopic dermatitis, Dr. Hide’s specialty, shows how difficult that is. After years of research, he has discovered the reason why sweat aggravates allergy symptoms in almost 80 percent of all atopic patients.

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**Management Summary**

**Challenge:**

Allergies are also gaining ground, not only in Japan. When left untreated, allergy symptoms become chronic over time. This is why education about this disease is extremely important.

**Solution:**

In addition to allergy educators, who explain allergies to patients with the help of the children’s book *Mickey and the Giant Kachoo!* that Siemens and the Walt Disney Company created, allergist Dr. Odajima uses the highly sensitive 3gAllergy test by Siemens for more accurate diagnoses to determine the best treatment for each patient.

**Result:**

The 3gAllergy test’s large measurement range and extremely low detection limit for allergen-specific immunoglobulin E (IgE) enable doctors to check the success of a therapy – even in patients with extreme levels.
preventing an allergic reaction. In an experiment with 18 atopic dermatitis patients, he determined that the symptoms improved significantly in 14 of the patients who had been treated with a tannin spray.

**On the Way to Immunotolerance – the Combined Search with Transplant Medicine**

“If we want to cure allergies, we have to directly intervene in the immune system and increase immunotolerance,” says Dr. Hide. In order to gain insight into what an intervention like this would look like, Dr. Hide is cooperating with doctors in the field of transplant medicine. After all, organ transplants and allergies have a lot in common. Just as harmless substances can trigger allergic reactions in defense, without medication, the body treats the transplanted organ as foreign.

“Once we find out how we can convince the immune system to treat allergens like endogenous substances, allergies can be cured,” explains Dr. Hide. If all goes well, he hopes this could happen within ten years.

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**Breaking New Paths in Allergy Education**

Watch a film about why treating allergies more effectively requires not only an early diagnosis of allergy, but also a wealth of educational work.

To watch the video, scan the QR code using the reader app on your smartphone or enter the URL into your browser.

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