951 The Impact of Expert Allergy Care and a Nurse Telephonic Asthma Disease Management Program on Outcomes in Asthmatics *JL Sublett*, F Basile†, T Wighton‡, JA Wald§* *Louisville, KY †San Mateo, CA ‡San Francisco, CA §Overland Park, KS and the Vivra Asthma & Allergy National Group Practice Outcomes Study Group

The objective of this randomized control trial was to compare the outcomes of moderate to severe asthmatics cared for by allergists with a group provided the same care plus a nurse telephonic asthma disease management (TADM) program. Over a 12-month period 909 patients with moderate to severe asthma followed in 26 Vivra Asthma and Allergy (VAA) practices were randomized into 2 groups. Group 1 (Grp1) was followed in the usual manner by the allergists in the office. Group 2 (Grp2), in addition to being followed by the VAA allergist, was enrolled in a TADM program, Vivra HealthAssist, which provided initial and interval telephonic patient education, follow-up, and real-time outcomes assessment. Both groups were placed on appropriate doses of fluticasone propinate peak flow meters and written asthma care plans. Both groups showed significant improvement in outcomes and quality of life. Emergency department visits and hospitalizations declined by 62% (Grp1) and 70% (Grp2); days missed primary responsibility by 67% and 43%; days of asthma symptoms decreased by 37% and 44%; and days of productivity increased by 21% (Grp1) and 14% (Grp2). SF36 Quality of Life improved by 15% in both groups. Patient satisfaction with medications by allergists results in improved outcomes and quality of life. A nurse telephonic asthma disease management program may enhance these results.

952 Comparison of Allergenic Components Between German Cockroach Whole Body and Fecal Extracts *CS Hong, YY Yun, SH Ko, CW Kim, JW Park, HI Ree* Departments of Internal Medicine and Parasitology, Institute of Allergy, Yonsei University College of Medicine, Seoul, Korea

Cockroaches have been demonstrated to be an etiologic factor in allergic diseases. Furthermore sensitivity to cockroach places person with asthma at significant risk for exacerbation requiring emergency medical care. This study was undertaken to compare the allergenic components of German cockroach whole body with fecal extracts (GWBE and GFE). Patients with asthma and/or allergic rhinitis were skin prick tested with the extract of cockroach (Bayer Co, USA). Of these, 25 positive and 8 negative responders' sera were selected to undergo ELISA and immunoblot experiments. In ELISA, 72% (18/25) and 60% of positive responders' sera showed IgE reactivity to GWBE and GFE, respectively, and the IgE reactivity to GWBE were highly correlated with that of GFE ($r = 0.84$, $p < 0.01$). In inhibitory ELISA, very high cross-reactivity was observed between GWBE and GFE, slight cross-reactivity between GWBE and D farinae, and no cross-reactivity between GFE and D farinae, respectively. In two-site monoclonal antibody based ELISA, the amount of major allergens of German cockroach was 6.2 times (390 vs 2420 U/ml) for Bla g 1 and 3 times (5.07 vs 15.32 μg/ml) for Bla g 2 as much in GFE as in GWBE, respectively. In immunoblot, there was apparent difference in the IgE binding patterns to GWBE and GFE in each positive responder and 50% or more of 25 positive responders' sera reacted to 43~67 kd proteins of GWBE and to 28~30 kd proteins of GFE, respectively, as compared to 8 negative responders' sera without any IgE binding components. In conclusion, it was demonstrated that obvious difference exists between the allergenic components of GWBE and GFE, and on the basis of the amount of major allergens (Bla g 1, Bla g 2), German cockroach feces are much more important allergen than the whole body in respiratory allergic diseases.

954 Moth Crystals, but Not Moth Balls or Lavandin Oil, Kill Mites in Wardrobes *JD Miller* Allergy and Asthma Associates, Danbury, CT, USA

House dust mites are present in large numbers in clothing. A previous study showed that the vapors of three products that kill moth larvae—paradichlorobenzene moth crystals, napthalene mothballs, and lavandin oil—also killed house dust mites in culture dishes and clothing, when placed in 15 liter sweater storage boxes. To see whether the vapors would work in larger areas, the studies were repeated in closet-sized wardrobes.

Dense cultures of D. pteronyssinus mites, and sections of a woolen sweater inoculated with such mites, were placed in four 760 liter, clear vinyl wardrobes. Dishes of saturated saline solution were used to maintain humidity at 75%. Seventy-five gm of moth crystals was placed into one wardrobe, 75gm of mothballs was placed into the second, and one opened Off!® Moth Proofer lavandin oil packet was placed into the third. The fourth was left as an untreated control. The cultures were examined after two days and again after two weeks. The number of live mites in the sweater sections was counted at two weeks using the heat escape method. All studies were performed twice.

In contrast to the previous studies done in small volume containers, the mothball and lavandin oil vapors had no effect on mites in the larger volume wardrobes, with innumerable mites present in the culture dishes after two days and two weeks of contact with the vapors. The para-dichlorobenzene vapors, however, killed most mites in the culture dishes, although a very few survivors were noted, <2%. Heat escape testing of the woolen fabric sections at 2 weeks revealed a mean of 124, 170, and 205 live mites/square cm in the control, lavandin oil, and mothball-treated sections, respectively. The moth crystal-treated fabric had a mean of 4 live mites/square cm.

Despite initially promising results, lavandin oil vapor is not capable of killing house dust mites in larger areas, such as clothing closets. Para-dichlorobenzene moth crystals are relatively effective in such areas, but they do not kill 100% of the mites, and their odor may limit their practical use.

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