Table 1 - Effect of Helicobacter pylori eradication on short-term control of glycemia in patients with type 2 diabetes mellitus.

Variable	Group	Number	Mean	SD	t*	df	*p* value
HbA1c decrease (%)	Control	22	0.019	0.22	0.612	39	0.54
	Case	19	0.057	0.16			
FBS decrease (mg/dl)	Control	22	11.95	60.82	0.54	39	0.58
	Case	19	3	39.51			

HbA1c - Glycosylated hemoglobin, FBS - Fasting blood sugar, SD - Standard deviation, df - degrees of freedom, *Independent T-test

statistical test was carried out with Statistical Package for the Social Sciences (SPSS) program (Version 11.5, 2002, ©SPSS Inc.) and two-sided p values lower than 0.05 were considered to be statistically significant. Nineteen cases and 22 controls enrolled in study. H. pylori eradication rate in patients in first group was 76% (19 from 25 patients, 95% confidence intervals: 54.4-89.8%). No significant differences observed in demographic and clinical aspects between the 2 groups (Age, Gender, Duration of DM, Oral or Insulin therapy). As shown in **Table 1**, the mean decrease of HbA1c level in case (treatment) is more than control (without treatment) group, however, this difference is not statistically significant and very small. Mean decrease of FBS shows no statistically significant difference between 2 groups as well. So, this study suggests that H. pylori treatment in patients with type 2 DM has no roles in short-term control of the disease.

The studies have been performed up to now, have differences in following point: different populations (adult/pediatric), different groups (type 1/type 2 diabetes) and different duration of follow-up (short-term/long-term). Thus, in most studies, number and type of evaluated cases has limitations and the results are different. In future, it is required to perform more extensive studies, using randomized clinical trials with long-term follow-up, and avoidance of all confounding variables, which can affect on glycemia control.

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From the Gastrointestinal and Liver Disease Research Center (GILRC), Semnan University of Medical Sciences, Semnan, Iran. Address correspondence and reprint requests to: Dr. Jafar Toussy, Gastrointestinal and Liver Disease Research Center (GILRC), Semnan University of Medical Sciences, Fatemieh Hospital, 17th Shahrivar Boulevard, Semnan, Iran. Tel./Fax. +98 (0231) 3341440. E-mail: drtoussy@yahoo.com, gilrc@sem-ums.ac.ir

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Arabian incense exposure among Qatari asthmatic children. *A possible risk factor*

Atqah Abdul Wahab, *ABP, FCCP,*
Ossama A. Mostafa, *MPH, DrPH,*

Asthma is a multifactorial disease that is likely to be the result of interactions between a genetically determined predisposition to allergic diseases and environmental factors that serve to enhance allergic inflammation and target inflammation to the lower airway. The Expert Panel of the National Asthma Education and Prevention defined asthma as a chronic inflammatory disorder of the airways, in which many cells and cellular elements play a role, in particular mast cells, eosinophils, T-lymphocytes, neutrophils, and epithelial cells.[1] People spend approximately 90% of their time indoors, where the levels of some pollutants often are higher than they are outdoors. Indoor pollutants that can trigger asthma include house dust, environmental tobacco smoke, pet dander, incense, and molds.[2] Incense is a traditional perfume, which is commonly used in the Arabian Gulf area. It consists of charcoal, starch, karaya gum, aromatic chemicals, plant wood, perfume, and essential oils. Incense has appeared in many forms: raw woods, wood chips, resins, powders, and even liquids or oils. The Arabian Gulf people prefer to have fragrance of incense around, and they use various

perfumes on their body and clothes. A common ancient tradition to keep their houses and offices filled with fragrance is burning incense on hot coals in a special type of incense burner or Mabkhara. The most commonly used incense for burning is oud. The tree referred to as "oud" is *Aquilaria agallocha,* and is also known as lignum aloes, aloes wood, agarwood, and eaglewood. The unique aroma is due to a fungal infection of the heartwood, which causes the tree to secrete aromatic protective resin that has long been used in the Middle East as a source of incense and perfume. Other types of incense (such as bakhour) are derived from sandalwood and are usually mixed with other ingredients such as agarwood, natural oils, and other natural ingredients. Frankincens is a resin produced by small pine like trees of the genus *Boswellia* that grows only in arid areas of southern Arabia and in parts of Somalia, Sudan, and Ethiopia. The gum oozes out, hardening in lumps. These lumps are then gathered and stored in mountain caves for 6 months to dry. Combined together, or with other spices such as cinnamon, cassia, and iris, they create a myriad of scents.[3] The aim of this study is to determine whether exposure to environmental incense may contribute, as trigger factors, for occurrence of asthma among Qatari asthmatic children. The Research Ethics Committee of Hamad General Hospital, Hamad Medical Corporation, approved this study. It was conducted between September to November 2005, following a retrospective case control study design. An interview questionnaire was applied at the Pediatrics Outpatient Clinics of Hamad General Hospital (a tertiary care center in the State of Qatar) on families of asthmatic (cases) and non-asthmatic children (control). According to a consecutive sampling technique, 100 asthmatic Qatari children (55 boys and 45 girls) were included in this study. A total of 100 healthy children were selected as controls. The clinical diagnosis was based on the Expert Panel of the National Asthma Education and Prevention.[1] Both study groups were investigated for the past exposure of interest (Arabian incense) in addition to family history of asthma, allergic rhinitis, and atopic eczema. Asthmatic children comprised 55 boys and 45 girls (mean age ± SD: 4.31 ± 3.48 years), while healthy controls comprised 50 boys and 50 girls (mean age ± SD 4.37 ± 3.65 years. Their age ranged from 2-12 years. **Table 1** shows that asthmatic mothers or siblings constitute significant risk factors for bronchial asthma among Qatari children (p=0.027 and p<0.001, respectively). The percentage of exposures to different types of Arabian incense namely bakhour, oud, or frankincense in 80%, 65%, and 69% among asthmatic children, while among non-asthmatic control children in 66%, 51%, and 52% with significantly more among Qatari asthmatic children than non-asthmatic control children (p=0.026, p=0.045, and p=0.014). The present study showed that atopic families are more exposed to the Arab Gulf incense with statistical difference in the impact of potential risk factor in asthma attack. Whether this reflects a high allergenicity of Arabian Gulf incense is uncertain. Further studies are needed in order to determine which part of ingredients is directly associated with airway hyper-responsiveness or considered as an irritant to airways. Both in the State of Qatar and Kuwait, the implication of exposure to different types of incense as a trigger for asthma symptoms has been reported as a potential risk factor.[4,5]

Table 1 - Comparison between cases and control as regard to the family history of asthma, allergic rhinitis, and atopic eczema.

Family history	Cases (n=100)	Control (n=100)	*P*-value
Mother			
Asthma	20	9	0.027
Allergic rhinitis	17	13	0.627
Atopic eczema	11	6	0.205
Father			
Asthma	9	3	0.074
Allergic rhinitis	10	9	0.809
Atopic eczema	5	1	0.097
Sibling			
Asthma	52	11	<0.001
Allergic rhinitis	7	5	0.552
Atopic eczema	6	5	0.756

In conclusion, exposure to potential indoor environmental Arabian incense can be commonly incriminated exposures. Moreover, asthmatic mother or sibling constitutes significant risk factors for bronchial asthma among Qatari children. It is recommended to avoid exposure to identified factors triggering bronchial asthma among children.

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From the Department of Pediatrics (Abdul-Wahab), Hamad Medical Corporation, Doha, Qatar, and the Beni Suef Faculty of Medicine (Mostafa), Egypt. Address correspondence and reprint requests to: Dr. Atqah Abdul-Wahab, Consultant Pediatric Pulmonologist, Department of Pediatrics, Hamad Medical Corporation, PO Box 3050, Doha, Qatar. Tel. +974 4392834 / 4392383. Fax. +974 4439571. E-mail: atiqa@qatar.net.qa, atiqa@hmc.org.qa, atiqaaw@yahoo.com

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Maternal serum ferritin and hemoglobin values in patients with gestational diabetes mellitus

Emre S. Gungor, *MD,* ***Nuri Danisman,*** *MD,*
Leyla Mollamahmutoglu, *MD.*

A number of studies have linked increased maternal iron store and high serum hemoglobin (Hb) levels in pregnancy with increased incidence of adverse pregnancy outcomes, such as low birth weight and small-for-gestational age newborns, pre-term births, increased perinatal mortality, and preeclampsia.[1] In normal pregnancy, maternal serum ferritin level decreases with advancing gestation, even when iron supplementation has been given antenatally. Lao et al[2] identified high maternal hemoglobin and ferritin concentrations as a risk factor for gestational diabetes mellitus (GDM), however, there is no universal criterion of what constitutes a high hemoglobin concentration.

A case control study in Chinese women with a body mass index (BMI) of more than 26 kg/m^2, has shown that those who developed impaired glucose tolerance during pregnancy, had significantly increased Hb concentrations compared with BMI-matched groups.[3] In the non-pregnant population, an association between Hb values and red cell count with diabetes mellitus (DM) has been reported earlier. Diabetic subjects were found to have increased total red cell count compared with age and gender matched controls. Furthermore, it has been suggested recently that an elevated ferritin concentration is a part of the picture of insulin resistance. Since iron supplementation is often recommended to pregnant women, it is possible that iatrogenic iron excess can be induced in the non-anemic women. Therefore, the aim of this study is to clarify if there is a relationship between maternal iron status and Hb values and GDM in the third trimester, so that a rational approach can be formulated. The study group comprised 56 gestational diabetic patients and 56 patients for control group. The study protocol was approved by the hospital Ethical Committee, and all participants signed informed consents prior to sample collection. In our hospital, a multivitamin preparation containing 29 mg of elemental iron is offered to all patients after the initial visit. Since all patients were treated with multivitamin, there is no difference between the groups. Patients having hemoglobin level less than 10 g/dL at any time during pregnancy are diagnosed to have anemia, and these patients were not included to the study or the control group. All subjects were screened for GDM using a 50 g, 1-h glucose load administered 24-28 weeks' gestation. A positive screening test (plasma glucose ≥140 mg/dL) was followed by a 3-h oral glucose tolerance test (OGTT). Gestational diabetes mellitus was diagnosed according to the OGTT criteria of Carpenter and Coustan,[4] by which after a 100 g oral glucose load, 2 or more of the following plasma values was met or exceeded: fasting 95 mg/dL, 1 hour 180 mg/dL, 2 hours 155 mg/dL, and 3 hours 140 mg/dL. Diabetic patients were managed with a diet restriction first, and after this treatment all patients were followed up for their preprandial and postprandial second-hour plasma glucose levels weekly. If their preprandial glucose level was over 105 mg/dL or postprandial second-hour glucose level was over 120 mg/dL, insulin treatment was given. Anamnestic, clinical, and anthropometric parameters were recorded. The gestational age was estimated by last menstrual period, confirmed by ultrasonography. All subjects were followed until delivery, labor was not induced, and so, this will not have an impact on the gestational age of the offspring, birth weight, and Appearance, Pulse, Grimace, Activity, and Respiration (Apgar) scores were obtained. Maternal weight gain during pregnancy was defined as an increase in weight from pre-pregnant weight to weight at the last visit. Prepregnancy body mass index (p BMI) (weight [kg]/height [m]^2) was based on measured height and maternal self-report of prepregnancy weight at the initial visit. The women in both groups had the same socio-economic status and were non-smokers. Women with hypertensive disorders, blood disorders, multiple gestations, and renal or liver disease was excluded. At 28-30 weeks, after informed consent obtained, blood was taken for the study of maternal hemoglobin concentration, mean corpuscular volume, serum transferrin and ferritin concentration (Microparticle Enzyme Immunoassay, IMx System of Abbott Laboratories, Abbott Park, IL), and insulin levels. The patients subsequently diagnosed to have glucose intolerance were compared with control group. Statistical analysis was performed using the Mann-Whitney *U* test and Student's *t*-test using a commercial computer package (Statistical Package for the Social Sciences [SPSS] for Windows, SPSS Inc., Chicago, IL).

The maternal characteristics of the 2 groups are shown in **Table 1**. Significant difference was found among the 2 groups in the maternal age, gravida, and