Microbiology & Immunology

**FOXP3 promoter polymorphisms are not associated with a risk for breast cancer: a study from Egypt**
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Breast cancer is resulting from complex interactions between environmental and genetic factors. It is the most common cancer among Egyptian females accounting for 37.7% of their total. Foxp3 gene is an X-linked gene and an essential transcription factor in CD4+ CD25+ Foxp3+ regulatory T cells, it is an important tumor suppressor gene in carcinoma, it suppresses various types of cancers including breast cancer and it has frequently observed somatic mutations and chromosomal deletions in breast cancer. Background: Several studies had been carried out with polymorphisms of the Foxp3 promoter region in various diseases including breast cancer in different populations. In the present study, we evaluated the role of two promoter polymorphisms of the Foxp3 gene (rs3761548) and (rs3761549) in 275 cases with breast cancer Egyptian patients and 123 control to find an association between phenotypic and genotypic characters. To our knowledge, this is the first study reported in relation to Foxp3 and breast cancer from Egypt.

**Method:** genotyping was carried out for Foxp3 rs3761548 by SSP and PCR-RFLP for rs3761549.

**Results:** with rs3761548 the highest genotype found was AC genotype followed by CC and AA and for (rs3761549) the commonest genotypic was TT followed by CT & CC. Her2neo and CA19-9 were associated with risk of metastasis prediction in uni and multivariable analyses.

**Conclusion:** No significant association was found between Foxp3 both SNPs’(rs3761548) and (rs3761549) alleles and genotypes and risk of breast cancer development.

**Plasma levels of interleukin-17 and transforming growth factor-beta in vitiligo patients: an Egyptian study**
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**Background:** Vitiligo is a common acquired depigmentary skin disorder. The pathogenesis of the disease is not fully understood. Several hypotheses have been emerged to explain the underlying pathogenesis including the autoimmune hypothesis.

**Objectives:** assessment of the autoimmune nature of vitiligo by estimating plasma levels of interleukin-17 (IL-17) and transforming growth factor-beta (TGF-β).

**Methods:** Comparing plasma levels of IL-17 and TGF-β in 50 vitiligo patients with 20 matched control individuals and its relation with degree of vitiligo.

**Results:** The mean of IL-17 was significantly higher in cases than control (p = 0.004) while the mean of the TGF-β was significantly lower in cases than control (p = 0.002). There was a moderate direct correlation between IL-17 and the degree of vitiligo (p = 0.000; r = .478) and a strong reverse correlation between TGF-β and the degree of vitiligo (p = 0.000; r = -.725). IL-17 TGF-β inter-correlation revealed a moderate reverse correlation between the interleukin IL-17 and TGF-β (p = 0.03; r = -.410).

**Conclusions:** The study revealed the important roles of IL-17 and TGF-β in pathogenesis of vitiligo which support the autoimmune hypothesis of disease.

**APIC’s competency model at an Egyptian University Hospital: an applicable tool for design and monitoring of continuous professional development**
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**Background:** The Association for Professionals in Infection Control & Epidemiology (APIC) developed a competency model to address infection preventions (IP) professional demands.

**Aim:** Evaluate the effect of an IP training program.

**Methods:** A quasi experimental study. A twelve-month’s training program was designed to cover 8 core competencies. 110 IPs were recruited from 5 specialized hospitals at Zagazig University; 23 infection control nurses, 75 infection control link nurses, 10 physicians & 2 pharmacists. A pre & post training evaluations were conducted by APIC competency model as a self-assessment tool.

**Results:** Pre-training, IPs self-rated their competency as approaching expert in the identification of infectious disease processes& education and research (40% & 46%); Novice in surveillance and epidemiologic investigations& employee/occupational health (65%, 83%); approaching proficient in environment care& cleaning disinfection sterilization and asepsis (80% & 66%); expert in preventing/controlling the transmission of infectious agents (81%). Post-training, IPs reported: Approaching expert in identification of infectious disease processes and education & research (40% & 46%); Novice in surveillance and epidemiologic investigations & employee/occupational health (65%, 83%); approaching proficient in environment care & cleaning disinfection sterilization and asepsis (80% & 66%); expert in preventing/controlling the transmission of infectious agents (81%). Post-training, IPs reported: Approaching expert in identification of infectious disease processes (42%); approaching proficient in surveillance and epidemiologic investigations (52%); expert in preventing/controlling the transmission of infectious agents (90%); novice in occupational health (66%); proficient in management and communication & cleaning disinfection sterilization and asepsis (42%, 75%); approaching expert in education and research & environment care (58%, 94%).

**Conclusion:** Preventing/controlling the transmission of infectious agents & environment care components showed the highest competency levels after the training, while education & research was the least affected.

**Recommendations:** The model could be a valuable source for data in training needs analysis with subsequent use in the design of IP professional development programs.