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Oxidative stress parameters in psoriasis and psoriatic arthritis patients in comparison to the healthy controls: A preliminary study conducted in Sri Lanka

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Psoriasis is a chronic skin disorder which affects 2-3% of the global population. One of the manifestations of long-term psoriasis condition is psoriatic arthritis. This study aimed to compare the oxidative stress parameters of patients with psoriasis (PP) and psoriatic arthritis (PA) with the healthy controls (HC). A total of 20 patients were recruited including 9 of PP and 11 of PA from the National Hospital of Sri Lanka (a tertiary care hospital). Age and gender matched- HC were recruited from the community (n=20). Serum and leukocytes were isolated from the blood samples collected from patients and HC. Phagocytes were separated from the total leukocytes prior to the experiments. Reactive nitrogen species (RNS) and total antioxidant capacities were measured in the sera isolated. Cellular production of reactive oxygen species (ROS) and RNS levels were measured using isolated cells. Results revealed that the serum RNS levels were significantly high in both groups of patients (PP and PA) compared to HC (0.71 ± 0.32 & 0.97 ± 0.26 Vs 0.51 ± 0.81 ; $p<0.001$) while their antioxidant levels were similar to that of the HC. However, no significant difference was detected either in serum RNS or AOC levels between the two groups of patients. The cellular production of ROS and RNS levels by phagocytes

isolated from PP (269.5 ± 206 , 257.6 ± 32 respectively) and PA (346.6 ± 319 , 251.3 ± 77 respectively) were also significantly higher than those of the HC (89.4 ± 98 , 66.3 ± 46 respectively; $p=0.005$, $p=0.002$ respectively). Nevertheless, the cellular production of ROS and RNS levels between the two groups of patients were comparable. Overall, it was observed that the serum oxidative stress parameters and cellular production of them were significantly higher in both groups of patients with psoriasis over HC. Similar levels of serum oxidative stress parameters and corresponding cellular productions were detected in both groups of patients despite the presence of arthritis, in one group.

Speaker Biography

Fatema Shabbir has completed here master of science degree in cellular and molecular immunology at institute of biochemistry, molecular biology and biotechnology (IBMBB), University of Colombo. She is currently employed as the assistant lecturer in immunology at IBMBB, University of Colombo. She studied the role played by the oxidative stress parameters and the inflammatory mediators in bringing about the pathogenesis of psoriasis as a part of her MSc. Research study project. Apart from assisting the students in lectures and practical classes, she is also involved supervision of MSc research projects aiming at the immunopathogenesis of psoriasis.

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