

## Disfungsi otonom kardiovaskular pada anak dengan diabetes melitus tipe-1 = Cardiovascular autonomic dysfunction in children with type-1 diabetes mellitus

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### Abstrak

Disfungsi otonom kardiovaskular (DOK) merupakan komplikasi diabetes melitus tipe 1 (DMT1) yang menjadi penyebab kematian tersering pada dewasa. Gejala subklinis dapat berawal sejak remaja tetapi deteksi dini melalui pemeriksaan fungsi otonom kardiovaskular belum rutin dilakukan. Studi terdahulu menunjukkan bahwa kontrol glikemik dan lama sakit berpengaruh terhadap progresivitas DOK. Data di Indonesia mengenai masalah ini belum ada. Penelitian ini bertujuan untuk mengetahui prevalens DOK pada pasien DMT1 anak dan menilai hubungan DOK dengan rerata lama sakit dan kadar HbA1C. Tiga puluh delapan anak berusia 10-18 tahun dengan DMT1 yang terdiagnosis lebih dari 5 tahun menjalani 3 pemeriksaan uji refleksi kardiovaskular (URK) di Poliklinik Endokrinologi Anak RSCM Kiara. Disfungsi otonom kardiovaskular dengan 1 nilai abnormal URK ditemukan pada 36,8% anak. Tidak ditemukan korelasi bermakna antara DOK dengan rerata lama sakit dan kadar HbA1C. Berdasarkan penelitian ini, prevalens DOK pada remaja cukup tinggi sehingga deteksi dini sebaiknya dilakukan secara rutin. Penelitian lanjutan dengan rentang sakit yang lebih panjang dan data HbA1C serial perlu dilakukan untuk mengevaluasi peran kontrol glikemik dan lama sakit terhadap kejadian DOK.

.....Cardiovascular autonomic dysfunction (CAD) is a type 1 diabetes mellitus (T1DM) complication which becomes the most common cause of death in adults. Subclinical symptoms may have occurred since adolescence, yet early detection using cardiovascular autonomic function examination has not been performed routinely. Previous studies showed that glycemic control and duration of illness affected CAD progressivity. However, there is still no data regarding this issue in Indonesia. This study aimed to determine the prevalence of CAD in pediatric T1DM patients and the correlation between CAD and average length of illness, as well as HbA1C levels. Thirty-eight children aged 10-18 years who had been diagnosed with T1DM for more than 5 years underwent a series of three cardiovascular reflex test (CRT) at the Pediatric Endocrinology Polyclinic RSCM Kiara. Cardiovascular autonomic dysfunction which was defined by one abnormal CRT value was found in 36.8% children. No significant correlation was found between CAD and the average length of illness and HbA1C levels. Based on the study, CAD prevalence in adolescents is substantially high, which emphasize the need of routine early detection. Further research with a longer duration of illness and serial HbA1C data need to be carried out to evaluate the role of glycemic control and illness duration in CAD occurrence.