

P-wave duration dispersion in patients with lichen planus

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Dear Editors,

We have read the article "Increased P-wave dispersion (PWD) in patients with newly diagnosed lichen planus (LP)" by Sahin et al. (1). These researchers aimed to investigate PWD in patients with LP, and they concluded that PWD increased in the surface electrocardiographic measurements of LP patients. This result may be important for the early detection of subclinical cardiac involvement. This study provides important information on this clinically relevant condition. The ready availability of this parameter at no additional cost may encourage its wider use in clinical practice in the future. The authors should be commended for their contribution.

LP is a chronic inflammatory autoimmune mucocutaneous disease. Although its pathogenesis is not fully understood, it is recognized as a chronic disease that is almost certainly immunologically mediated. Several studies have shown that prolonged PWD has predictive value for the development of atrial fibrillation (AF) in patients with or without apparent heart disease. In addition to predicting AF, prolonged PWD has also been observed in various clinical settings. Cross-sectional studies have demonstrated that subjects with hypertension, obesity, diabetes, and coronary artery disease have prolonged PWD compared with controls. Apart from the above-mentioned diseases, some conditions, such as seasonal variation, alcohol intake, and caffeine ingestion, have been demonstrated to affect PWD.

Hepatic steatosis is associated with metabolic and hemodynamic abnormalities induced by insulin resistance and severe inflammation. Increased PWD may indicate a risk of atrial arrhythmia in patients with inflammation-based hepatic steatosis (2). Prolonged PWD has also been observed in patients with stable asthma (3). Furthermore, PWD is independently associated with renal function. In a previous study, researchers showed that PWD is a novel parameter that may accurately predict AF and was increased in renal failure patients (4).

Prolonged atrial electromechanical coupling time and impaired mechanical atrial functions may be related to the increased incidence of arrhythmias. Thyroid hormone levels may affect atrial electromechanical function. In a previous study, researchers demonstrated prolonged PWD in patients with thyroid disorders (5). Additionally, some medications, such as propylthiouracil and methimazole, were found to reduce the P wave duration and dispersion (6). Furthermore, antihypertensive therapy, such as short-term treatment with quinapril, irbesartan, atenolol, and nebivolol, reduces the duration of PWD. This effect is independent of blood pressure and heart rate changes. Additionally, lipid-lowering therapy significantly reduced PWD, a finding that may be important in the prevention of AF in hyperlipidemic patients.

In conclusion, although prolonged PWD was observed in the surface electrocardiographic measurements of LP patients as presented in the current study, PWD may be affected by various conditions and medications. Therefore, further studies should evaluate prolonged PWD-related conditions.

REFERENCES

1. Sahin M, Bilgili S, Simsek H, Akdag S. Increased P-wave dispersion in patients with newly diagnosed lichen planus. *Clinics*. 2013;68(6):846-50, [http://dx.doi.org/10.6061/clinics/2013\(06\)20](http://dx.doi.org/10.6061/clinics/2013(06)20).
2. Aparci M, Isilak Z, Uz O, Kardesoglu E, Yiginer O, Sildiroglu O, et al. Increased P wave dispersion in patients with liver steatosis. *Med Glas (Zenica)*. 2010;7(2):143-7.
3. Yücel O, Yildiz M, Altinkaynak S, Sayan A. P-wave dispersion and P-wave duration in children with stable asthma bronchiale. *Anadolu Kardiyol Derg*. 2009;9(2):118-22.
4. Solak Y, Gul EE, Kayrak M, Atalay H, Abdulhalikov T, Turk S, et al. Electrocardiographic P-wave characteristics in patients with end-stage renal disease: P-index and interatrial block. *Int Urol Nephrol*. 2013; 45(2):511-7, <http://dx.doi.org/10.1007/s11255-012-0187-z>.
5. Ozturk S, Dikbas O, Baltacı D, Ozyasar M, Erdem A, Ayhan SS, et al. Evaluation of atrial conduction abnormalities and left atrial mechanical functions in patients with subclinical thyroid disorders. *Endokrynol Pol*. 2012;63(4):286-93.
6. Berker D, İşik S, Canbay A, Aydın Y, Tütüncü Y, Delibaşı T, et al. Comparison of antithyroid drugs efficacy on P wave changes in patients with Graves' disease. *Anadolu Kardiyol Derg*. 2009;9(4):298-303.

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