Prevalence of Lipohypertrophy In Insulin-Treated Type 2 Diabetes Mellitus

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ABSTRACT

Introduction: Lipohypertrophy is one of the most common complications of insulin injection. Early detection of lipohypertrophy is very important to prevent the risk of hyperglycemia or hypoglycemia, arisen due to inconsistencies in absorption of insulin. The purpose of this study is to determine the prevalence of lipohyperthrophy in insulin-treated type 2 Diabetes Mellitus. **Methods:** This is a quantitative descriptive study which was carried out from June to August 2017 in one of tertiary hospital in Sabah. Participants were recruited via purposive convenience sampling. This study was divided into 2 parts which includes questionnaire survey and examination of lipohyperthrophy based on inspection and palpation techniques. Study participants were patients with type 2 Diabetes Mellitus and on insulin injection more than 3 months. The finding of the injection site examination recorded as "presence" and "not presence" based on the features of lipohyperthrophy. The features of lipohyperthrophy include a palpable lump, swelling of fatty tissue around the subcutaneous insulin injection site, thickened 'rubbery' swelling of tissue that is soft and firm, and less pain sensation. Respondent who have one or more of these features considered as presence of lipohyperthrophy. **Results:** Out of 130 patients, more than half of respondents (51.5%, n=67) had lipohyperthrophy and 48.5% (n=63) without lipohyperthrophy. The occurrence of lipohyhertrophy is shown to be higher in patients who had a longer duration of insulin injection (p=0.002), Failure of changing needle (p=0.026) and failure of rotation injection site (p=0.017) at each time of injection. **Conclusion:** The high prevalence of lipohypertrophy shown in this study highlights the need for prevention strategies, which include regular assessment for the presence of lipohypertrophy and health education on insulin injection. Health education should emphasize on self-assessment of lipohypertrophy, and the importance of right injection techniques.

Keywords: Lipohyperthrophy, Diabetes Mellitus, Type 2 Diabetes Mellitus, Insulin, Prevalence