**Effect of Diabetes on Postoperative Ambulation Following Below Knee Amputation**

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**Background:** Ambulation forms an important part of rehabilitation program after lower limb amputations. Diabetes Mellitus and its complications are commonly associated with amputation. Despite this, there is an absence of studies on the effect of diabetes on the post-operative ambulation of an amputee. This study analyses the role of diabetes as an independent factor affecting post-operative ambulation and compares it with non-diabetics.

**Methods:** The present study followed 105 patients; 48 diabetics and 57 non-diabetic amputees. Their post-operative ambulatory level was compared by using Pinzur et al. ambulation scale. Both groups were age, sex and BMI matched.

**Results:** There was a worsening of ambulatory level in 33.3% diabetics as compared to 10.7% in non-diabetics postoperatively. Of the prosthetic users, 78.4% were in non-diabetic group and 21.6% were in diabetic group. 17.6% of prosthetic users required additional support, of whom 66.7% were diabetics.

**Conclusions:** Diabetes Mellitus is an independent factor which has an adverse effect on the functional outcome of a patient after below knee amputation.

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**A Case of Limbic System Atrophy in a Patient with Type 2 Diabetes Mellitus**

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**Background:** It is thought that there is close relation in glucose metabolism and brain damage. It is presumed that brain damage is caused by hypoglycemia. A limbic system exists in the inside of the cerebral cortex. It has been reported that limbic system atrophy tends to receive damage with hypoglycemia. We evaluated brain MR imaging changes of limbic system in a patient with type 2 diabetes mellitus with hypoglycemia. This case was considered to be a precious case when considering the relevance of glucose metabolism and brain damage.

**Case Report:** The patient was an 86-year-old female diagnosed with type 2 diabetes mellitus 20 years ago. She was brought to the emergency department in our hospital due to consciousness disturbance. In the emergency room, the blood glucose level was 16 mg/dl, and consciousness disorder was not recovered although intravenous injection of glucose was performed. It was presumed that the badness of a general state and unsuitable use of the oral hypoglycemic agent caused unstable glycemic control. Evaluation of change of brain MRI was made for 98 days.

**Results:** Evaluation of change of brain MRI was made for 98 days. The appearance of limbic system atrophy was observed. Limbic system atrophy advanced gradually. It was thought that this case was a precious case in which picture change of the limbic system was able to be caught.

**Conclusions:** It is presumed that hypoglycemia brings about activation of a glutamic acid receptor, and causes oxidant stress, and it is presumed that they make brain damage induce. Also in this case, we thought the damage of the limbic system was based on hypoglycemia. This case was considered to be a precious case when considering the relevance of glucose metabolism and brain damage.