인라인 스케이트를 타다가 발생한 대퇴골 전자간 골절

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인라인 스케이트를 타다가 발생하는 상지의 골절은 잘 알려져 있으나 하지의 큰 손상은 드물며 잘 알려져 있지 않다. 저자는 활동적인 중년 남자에서 인라인 스케이트를 타다가 넘어져 발생한 2례의 대퇴전자간골절을 최근 경험하여 이를 문헌 고찰과 함께 보고하는 바이다.

색인 단어
인라인 스케이트, 전자간골절, 스포츠손상

In-line skating (also known as roller blading) is a popular recreational sports enjoyed by more than 20 million Americans. It is used as a form of aerobic exercise, a training method for other sports such as hockey and ice-skating, and also as a means of transport. In Korea, 85% of primary school children enjoy in-line skating. Unfortunately, this sports can become hazardous. The skaters can reach at a speed over 30 mph. With increasing popularity of in-line skating, there has been a steep increase in the incidence of injuries. The high level of participation by novice skaters without protective gears and wrist splints led to wrist and upper extremity injuries. The combination of high speed and inexperience further predispose the in-line skaters to severe injuries. Even deaths have been reported. Hip fractures usually are low energy injuries occurring in elderly persons with osteoporosis. It may also occur in younger persons who sustain high-energy injuries, usually in-car accidents. Although the risk of fractures for upper extremity associated with in-line skating is well known, the incidence of low extremity injuries was reportedly low and thus not highlighted so far. However, more serious injuries of lower extremity can occur from in-line skating. The author have experienced two cases of intertrochanteric fractures which occurred to active, middle-aged adults during in-line skating and report them with a review of relevant literatures.

Case 1

A 45 year-old man visited emergency unit for left hip pain which developed after tumbling down during in-line skating. He was a beginner, and it was the third time of skating for him. When he was injured, he was skating slowly in the dedicated skating park with full protection devices. He stumbled on the ground, falling with a tough blow on the lateral side of right hip. Radiographs showed a comminuted intertrochanteric fracture with subtrochanteric extension (Fig. 1A). He had a very thin body figure: 173 cm tall and weighing 55 kg. He had no history of medical disease and was very active in sports, playing soccer once a week. Although a drinker on social occasions only, he had a smoking history of 20 pack-years. He underwent internal fixation on the proximal femur with a 95o ※ 통신저자: 임 군 일
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dynamic condylar screw. One year later, he had complete union of the fracture (Fig. 1B).

Case 2

A 40 year-old man was brought to the emergency unit after slipping down from in-line skating. He complained of right hip pain and inability to walk. He was a skilled in-line skater with experience of two years. He was moving slowly in a skating park with wrist guards and knee pads applied. His leg was caught with another’s one. He lost control, and fell down with his lateral buttock on the hard floor. He denied

Fig. 1. A 45 year-old man suffered an intertrochanteric fracture after tumbling down during in-line skating (A). He underwent internal fixation with a 95° dynamic condylar screw, and achieved a complete union of the fracture after one year (B).

Fig. 2. A 40 year-old man had an intertrochanteric fractures slipping down from in-line skating (A). He was treated with internal fixation using a dynamic hip screw. The fracture completely healed after one year of follow-up (B).
any alcohol or drug use. He had no history of previous falls while skating. The radiographs showed a comminuted intertrochanteric fracture (Fig. 2A). He had a slim body figure: 172 cm tall and 55 kg in weight. He denied any medical disease history. He went through internal fixation with a dynamic hip screw. On the day of one year follow-up, he had complete healing of the fracture (Fig. 2B).

Discussion

This report documents an unusual in-line skating injury of intertrochanteric fractures of the femur which occurred in adults on slow, cautious riding condition. The mechanism of the fractures was a direct blow onto the posterolateral aspect of the hip.

Intertrochanteric fractures are common fractures occurring in the elderly patients with osteoporosis. Patients usually sustain a minor trauma, usually a simple fall. However, these fractures infrequently occur in patients younger than 50 years of age, accounting for 3% of hip fractures. Robinson et al. reported two groups of patients: a group between 20 and 40 years of age who had fractures as a result of high-energy trauma and another group between 40 and 50 years of age with longstanding medical problems who experienced fractures after simple falls. The two patients in our report did not belong to either category. The common findings of the patients were a thin body physique and accordingly low body mass index. In addition, both patients sustained direct injury falling on the proximal thigh while moving slowly although they had been advised to slip on guarded part (wrist, elbow, knee) in case of fall. It is surmised that the small mass of muscle was not sufficient to buffer the impact of fall.

The in-line skating in general causes minor fractures, and the use of protective gear can effectively reduce the incidence of fracture on respective areas. However, serious injuries as shown in this case report may occur depending on the injury mechanism and the physical type of the person. In addition, the protective gears do not prevent the occurrence of the intertrochanteric fractures. It is suggested that to avoid the risk of severe injuries, the safety measures should be considered by participants in addition to wearing protective gears. With repeated occurrences of intertrochanteric fractures associated with in-line skating, a protective lateral hip pad may be recommended to guard against these injuries.

REFERENCES

ABSTRACT

Intertrochanteric Fractures from In-line Skating

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Although the risk of incurring fractures of the upper extremity that are associated with in-line skating is well known, the incidence of low extremity injuries was reported to be low and so this has not yet been highlighted so far. We have experienced two cases of intertrochanteric fractures that occurred to active, middle-aged adults during in-line skating and we report on these cases along with a review of the relevant literatures.

Key Words: In-line skating, Intertrochanteric fracture, Sports injury