

Faulty moves in kabaddi and football causes of higher incidence of ACL rupture

Abstract

Background: Prevention of contact ACL injury in sports like kabaddi and football are not well studied.

Material methods: 209 sportsperson, aged between 16-40 years who sustained ACL injury while playing sports were enrolled in study. From detailed history mode of injury was noted.

Result: Mean age of the patients was 23.34±5.18 years. 205 were males and 4 were females. 82 patients sustained ACL tear while playing kabaddi and 43 patients sustained while playing football. Out of 82 kabaddi players, 27 patients sustained injury because of scissor grip and 12 patients sustained injury after being directly hitting on the knee. In football, 12/43 of patients sustained injuries after being directly hitting on the knee.

Conclusion: Significant number of patients sustained ACL injury due to faulty moves in kabaddi and football. These injury can be prevent by posing current rules more strongly and banning some of the moves like scissore grip in kabaadi.

Keywords: ACL tear, faulty moves, sports, football players, kabaddi

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Introduction

Knee ligament injuries are common in sports. The incidence of anterior cruciate ligament (ACL) tear is one in 3000 in general population.¹ Increase in sports related knee injuries surge over the past few decades especially in sports like kabaddi and football. In recent studies, ACL injury is observed to be very common in kabaddi and football players.^{2,3} Causes of higher incidence of these injuries can be because of faulty moves or poor ground condition. As kabaddi is emerging international sports there is a need to identify the various risk factors which may be responsible for higher incidence of knee injury. We conducted this study to identify the various moves which are responsible for ACL tear.

Methods

This was a CTRI registered trial, where 209 sportsperson, age between 16-40 years, who underwent primary ACL reconstruction were included in the study. Mode of injury and details of injury were asked from each patient. Patients with multi ligamentous injury and patients who were previously operated on same or contralateral were excluded from the study. Only those patients who sustained injury while playing sports were included in the study.

Results

205 were males and 4 were females. Mean age of the patients was 25.19±5 years. 119 patients sustained injury on non-dominant limb and 90 patients sustained injury on dominant limb. 82 patients sustained ACL tear while playing kabaddi, 43 patients sustained while playing football, 28 patients were doing athletic activities (like jumping, running), 16 patients while playing cricket, 8 patients while playing wrestling, 7 patients while playing volleyball, 3 patients while playing badminton and rest of patients sustained injury while playing other games (Table 1). We observed that out of 82 kabaddi players, 27 patients had ACL tear because of scissor grip and 12 patients sustained

injury after being directly hitting on the knee by other player and 43 patients sustained injuries due to twisting of the knee while dodging and sudden change in direction. Nearly half of the patients (39/82; 47.5%) sustained contact mode of injury while playing kabaddi. In football also, 28 % (12/43 patients) of patients sustained injuries due to hitting on the knee. In our study, athletic activities accounting for 13% (28/209) of all ACL injuries and the mechanism of injury in majority (88%; 26/28) of our athletes were twisting of the knee.

Discussion

ACL rupture in sportsperson life can be nightmare as because of this not only players loses their precious on field time also some of the players are unable to return to the field.⁴ Therefore, faulty moves happened on the field can force a sportsperson to leave his sports. Like previous studies, in this study also we observed that most common mechanism of injury was non-contact mode of injury accounting for 69.5% of the injuries.^{5,6} For further refining the injury mechanism, we identify the different causes of ACL tear in different sports details of which were described in Table 1. Like previous epidemiological studies conducted in India we also observed that kabaddi and football are most commonly associated with ACL tear.^{2,3} Scissor grip and directly hitting on the knee are wrong moves which are responsible for ACL tear in number of patients. In 33% (27/82) of the kabaddi players who underwent ACL reconstruction scissor grip is the cause of ACL tear, whereas 15% (12/82) of the patients suffer ACL tear due to directly hitting on knee. Similarly in football also, 28% (12/43) of the patients had ACL tear due to faulty technique in which directly hitting on knee cause ACL tear. Most of the previous studies emphasize on prevention of non-contact mode of injury in various sports.⁷⁻¹⁰ None of the study identifies the various way of prevention of ACL injury cause by contact mode of injury. To best of our knowledge, no study has been conducted globally, which identified the different moves in a kabaddi which are responsible for ACL tear. As kabaddi is emerging as an international sport it is important to address injuries associated

with this sport and to elude faulty rules which are responsible for these injuries is need of the hour.

Table 1 Relationship of mode of injury and type of sports

	Scissors grip	Directly hit on knee	Twisting of knee	Awkward landing	Total patients
Kabaddi	27	12	43	-	82
Football	-	12	31	-	43
Athlete	-	2	18	8	28
Cricket	-	1	14	1	16
Volleyball	-	2	4	1	7
Wrestling	-	6	2	-	8
Badminton	-	-	2	1	3
Dancing	-	-	4	-	4
Basketball	-	-	4	3	7
Judo	-	1	2	-	3
Tycando	-	-	2	-	2
Hockey	-	1	2	-	3
Boxer	-	-	1	-	1
Shotput	-	-	1	-	1
Skating	-	-	1	-	1
Total	27	37	131	14	209

Conclusion

Significant number of patients sustained ACL injury due to faulty moves in kabaddi and football. These injury can be prevent by posing current rules more strongly and banning some of the moves like scissore grip in kabaadi.

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None.

Conflict of interest

On behalf of all authors, the corresponding author states that there is no conflict of interest.

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