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The Profound Impact of COVID-19 on the Epidemiology of Quadriceps and Patellar Tendon Ruptures: Insights from a Single Centre in the United Kingdom

Background

Quadriceps and patellar tendon ruptures are uncommon but disabling injuries requiring surgical repair. Emerging evidence suggests that the COVID-19 pandemic, with its associated restrictions on activity and subsequent rebound in exercise levels, has influenced the incidence of tendon injuries. However, data specifically on quadriceps and patellar tendon ruptures remain limited.

Methods

A retrospective review was conducted of all patients undergoing primary repair of quadriceps or patellar tendon ruptures between January 2010 and December 2024 at a single NHS trust. Cases were identified using the Bluespier database. The period 2010–2019 was defined as pre-COVID, and 2021–2024 as post-COVID, with 2020 excluded due to service disruption. Demographics, seasonal variation, and operative details were collected. Descriptive statistics were generated in Microsoft Excel, while comparative analyses were performed using SPSS, with significance set at $p < 0.05$.

Results

A total of $n=133$ patients sustained quadriceps or patellar tendon ruptures during the study period (precovid-76, post covid- 57). The median age was 63 years, and the age was not normally distributed, with a male-to-female ratio of 5.3:1. Most injuries occurred during winter (29.4%), followed by autumn (27.9%), spring (22.7%) and summer (19.9%). A marked increase in rupture incidence was observed in the immediate post-COVID period with the mean incidence of 4.40, peaking in 2022 with an incidence of 6.2 per 100,000, compared to a mean incidence of 2.6 per 100, 000 in the pre-pandemic period with peak occurrence in 2014.

Conclusion

This study highlights a rise in quadriceps and patellar tendon ruptures following the COVID-19 pandemic, with the greatest incidence noted after restrictions were lifted in 2022. The findings support the concept of a “COVID rebound effect,” likely reflecting a combination of tendon deconditioning during lockdown and sudden return to pre-pandemic activity levels. Awareness of this trend may help clinicians anticipate and manage similar injury patterns in the aftermath of large-scale lifestyle disruptions.

Biography

Thivagar Murugesan is an emerging professional dedicated to advancing his expertise and contributing meaningfully within his field. Known for his commitment to continuous learning, he actively engages in academic, clinical, and professional development activities. Thivagar demonstrates a strong interest in research, evidence-based practice, and innovative approaches that support improved outcomes and strengthen multidisciplinary collaboration.