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HIGH BASDAI SCORES DID NOT REDUCE IMMUNE RESPONSE TO PLANNED YELLOW FEVER PRIMARY VACCINATION IN SPONDYLOARTHRITIS

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BACKGROUND

Yellow fever (YF) vaccination might cause a large number of adverse events (AEs) and suboptimal responses in patients with autoimmune diseases (AIDs); however, there have been no studies on 17DD-YF primary vaccination performance in spondyloarthritis group. In 2017, Brazil's yellow fever epidemic triggered the need to vaccinate most people and made this study an opportunity.

MATERIALS AND METHODS

Prospective noninterventional study accomplished in 2017 assessing safety and immunogenicity of planned 17DD-YF primary vaccination. Adults with spondyloarthritis (SpA, n = 51) were enrolled along 38 healthy controls (HC), referred for planned vaccination by a rheumatologist. All had low level immunosuppression or had their biological therapy suspended for a period of 5 half-lives before vaccination. The occurrence of AEs, neutralizing antibody kinetics and seropositivity rates were evaluated at various time points (day 0 [D0], D3, D4, D5, D6, D14, and D28). Bath ankylosing spondylitis disease activity index (BASDAI) scores were evaluated at times D0 and D180.

RESULTS

The majority (73%) of SpA patients were in remission or low disease activity, in D0 with a mean BASDAI index of 2.7 ± 2.1. In the analysis using the BASDAI score, patients with controlled or active disease (BASDAI < 4 or BASDAI ≥ 4) presented similar seroconversion profiles according to the plaque reduction neutralization test (PRNT) at D28 (75% vs. 69%, p = 0.6), and low seropositivity rates related to HC (75% vs. 96%, p < 0.05) and (69% vs. 96%, p < 0.05), respectively. The PRNT titers in the HC group were 440 95% CI (291–665), higher than in the BASDAI < 4 (118, 95% CI (72–193), p < 0.01) and BASDAI ≥ 4 (92, 95% CI (36–239), p < 0.01). Seropositivity and PRNT titers were according to BASDAI (Fig. 1). The follow-up showed a drop in BASDAI. In the subgroups analysis, patients with controlled disease did not change BASDAI in D180 (1.34 ± 2.05 vs. 2.29 ± 0.5, p = 0.2) and those with active disease showed a decrease in disease activity (6.31 ± 1.33 vs. 4.14 ± 2.13 p = 0.04), with 31% achieving BASDAI < 4. Figure 2 shows BASDAI scores in D0 and D180.

CONCLUSION

The 17DD YF vaccine is safe for SpA patients, even with disease activity at vaccination time. BASDAI ≥ 4 did not reduce immune response, and the vaccine might have an immunomodulatory role, by reducing activity in the follow-up.

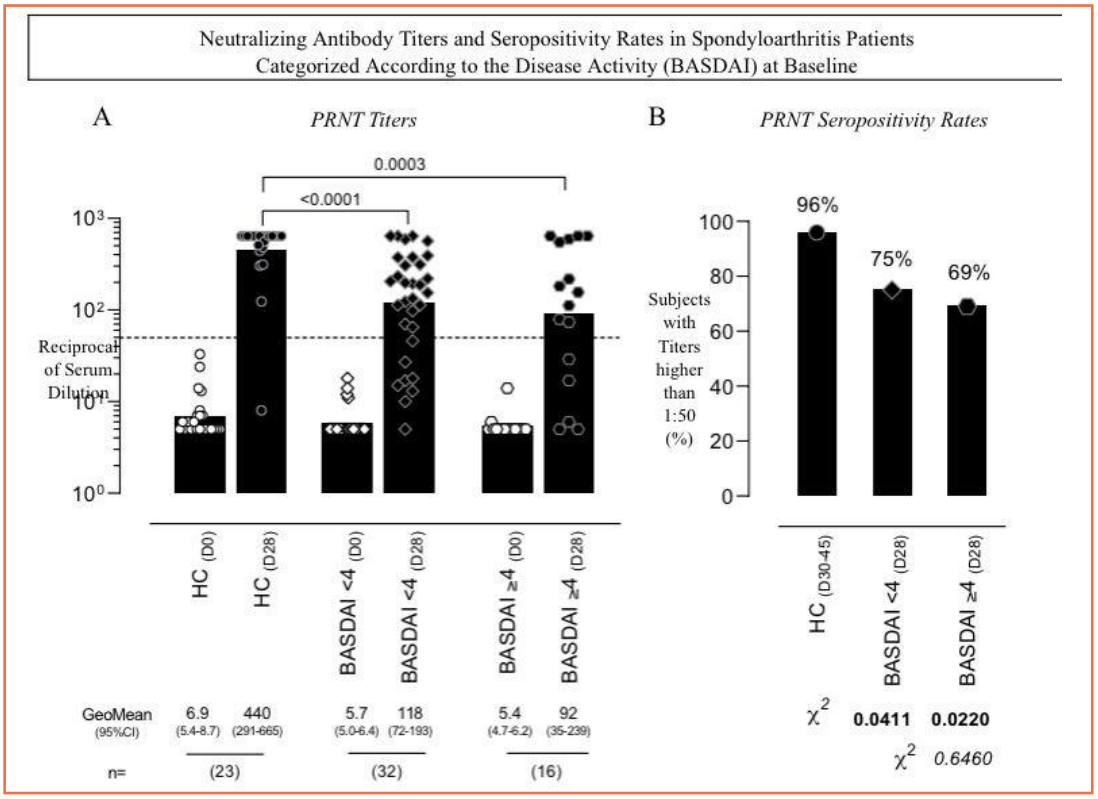

Figure 1. PRNT titers in D0 and D180, according to BASDAI at baseline and seropositivity rates.

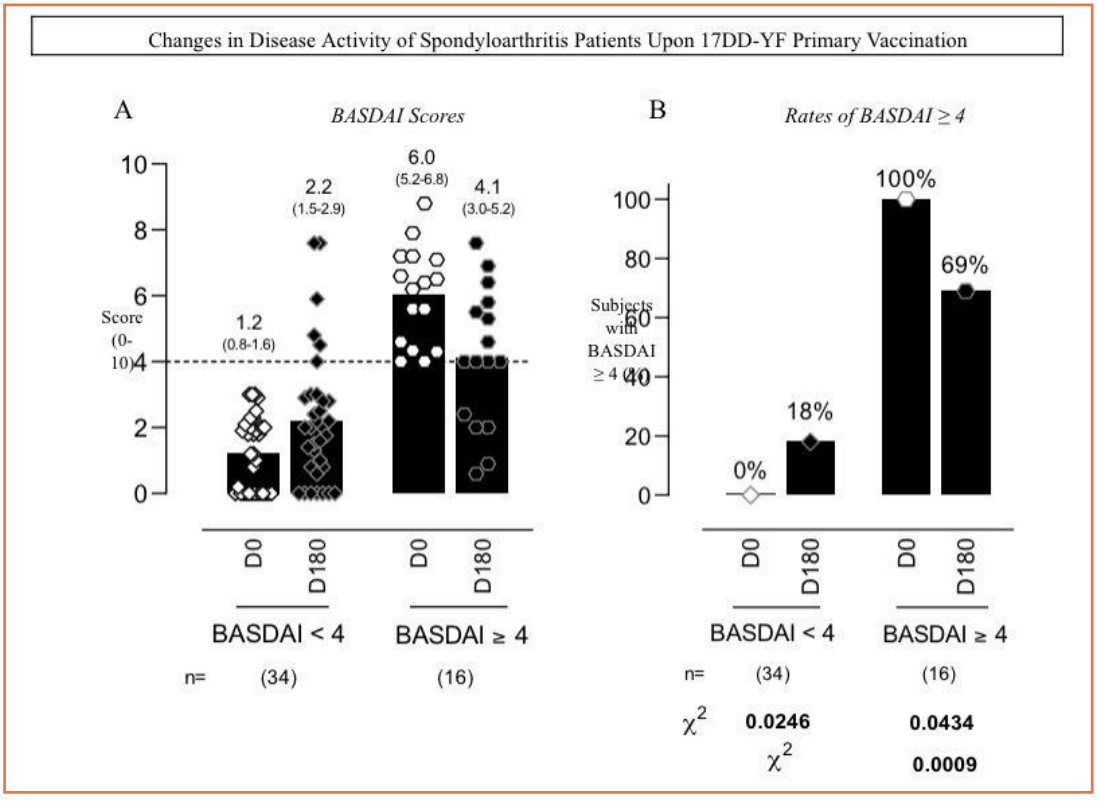

Figure 2. BASDAI scores in D0 and D180 after 17DD-YF primary vaccination.