

Dynamic Changes In Prognostic Nutritional Index During 177Lu-PSMA Radioligand Therapy: Can It Predict Survival In Patients With Metastatic Castration-resistant Prostate Cancer?

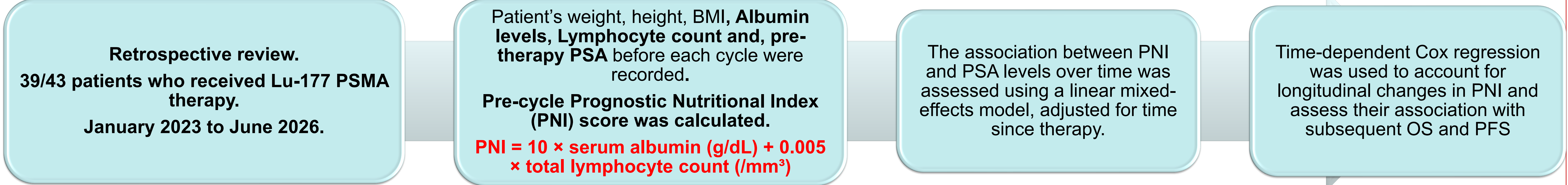
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OBJECTIVE

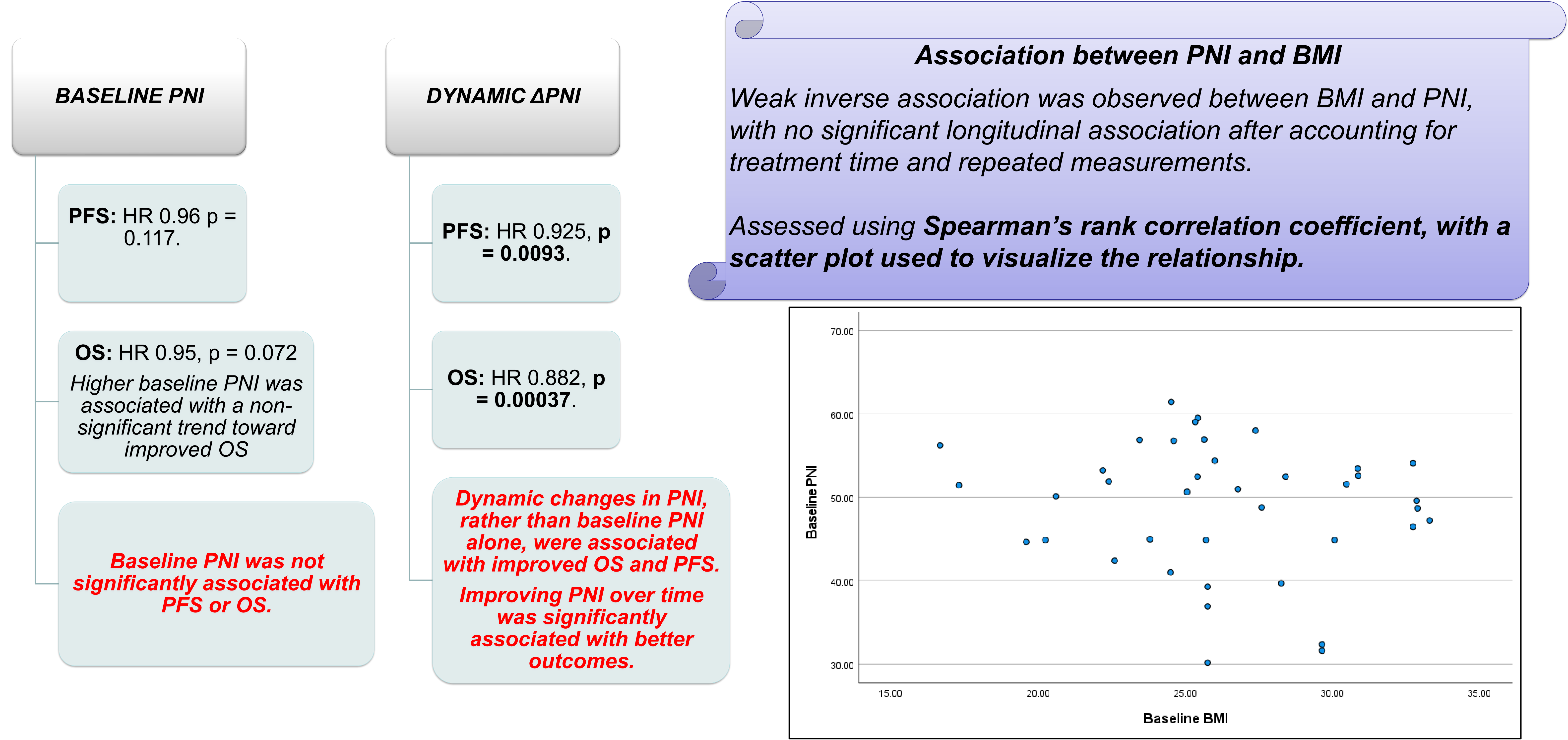
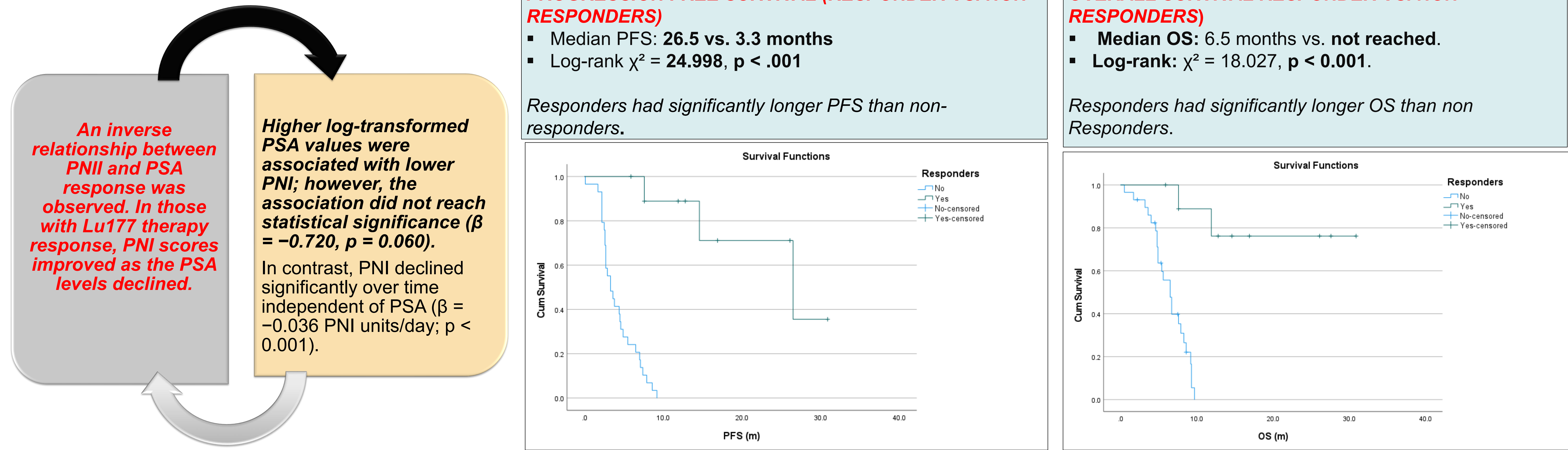
- Prognostic Nutritional Index (PNI), calculated from Serum Albumin and Lymphocyte counts reflects the nutritional and immune status.
- It serves as a valuable measure and can guide treatment tolerance, complications and patient prognosis.
- We aimed to look for prognostic significance of Nutritional index in patients receiving LU-177 PSMA therapy, its association with PSA response, overall survival and progression free survival.

MATERIALS AND METHODS



RESULTS

- 127 cycles of Lu-177 PSMA administered in 39 patients. **Mean number of cycles:** 3.26 ± 1.62 , range 1–8 cycles.
- Mean PSA:** 273 ± 505 , range 0.1 to 3583 across cycles. **Mean BMI:** 25.9 ± 4.5 .
- Mean weight:** 74.7 ± 13.8 . **The mean PNI value:** 46.9 ± 6.7 , range 27.3 to 61.45, indicating variability in nutritional status.
- Responders (PSA decline during/after lutetium-PSMA therapy and follow-up):** 10
- Non-responders (PSA rise at any point during lutetium-PSMA therapy) :** 29
- Overall PFS:** Median PFS was 4.6 months (95% CI, 2.52–6.68) among all 39 patients.
- Overall OS:** Among all 39 patients, there were 26 deaths (66.7%), and the median OS was 7.6 months.



CONCLUSION

- Dynamic changes in PNI over time were significantly associated with improved PFS and OS, suggesting that PNI trajectory may provide additional prognostic information beyond baseline PNI whereas baseline PNI alone was not a statistically significant predictor.
 - Response status was strongly associated with both PFS and OS.
- Strengths**

To the best of our knowledge, this is the first study to demonstrate a longitudinal association between dynamic changes in PNI, serial PSA levels, and survival outcomes during lutetium-PSMA therapy.
- Limitations**

Despite the small cohort (n=39), the large number of treatment cycles provides valuable longitudinal data.

These findings should be interpreted as prognostic associations, and larger studies are needed to validate the role of nutritional status in mCRPC outcomes.

