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A blinded, exploratory phase II trial of nivolumab and the GDF-15 neutralizing antibody visugromab or placebo as neoadjuvant treatment of patients with muscle-invasive bladder cancer (MIBC): Primary results of the GDFather-NEO trial

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Background

Neoadjuvant chemotherapy in MIBC suffers from limited activity and significant toxicity. Anti-PD-(L)1 monotherapy achieved comparable pathologic complete response (pCR) rates and improved tolerability. Growth and Differentiation Factor 15 (GDF-15) was recently identified as a key mediator of resistance to PD-(L)1 blockade in metastatic solid tumors [*Nature* 2025; 637, 1218ff].

Methods

The multicenter GDFather-NEO trial (NCT06059547) investigated visugromab (V; aGDF-15; 20 mg/kg) in combination with nivolumab (N; aPD-1; 480 mg) vs. N + placebo (P), administered Q4W for 3 cycles in cisplatin-ineligible/refusing participants (pts) with newly diagnosed clinical stage T2-T4aN0M0 MIBC. Pts were centrally stratified for PD-L1 CPS and cT-stage. Radical cystectomy or re-transurethral resection of the bladder tumor (TURBT) was performed 4-8 wks after last dose. Key endpoints were pCR (ypT0), major pathologic response (MPR, ypT≤1) and radiologic objective response rate (ORR; RECIST v1.1).

Results

Of 31 pts enrolled between September 2023 and March 2025, 28 were efficacy-evaluable (15 for N/V, 13 for N/P). 6 and 3 underwent re-TURBT post-treatment in N/V and N/P arms, respectively. Regarding efficacy, pCR (33.3 vs. 7.7%) and MPR (66.7% vs. 23.1%) rates were substantially higher for N/V vs. N/P. ORR as per RECIST v1.1 was 60.0% (7xCR/2xPR) vs. 15.4% (0xCR/2xPR) for N/V vs. N/P. N/V was superior across all T stages and dominantly in CPS≥10%. Tolerability of N+V was very good, detailed safety data will be shown. Baseline serum GDF-15 levels were comparable between N/V (n=13; mean 1.491 ng/mL; range 0.385 – 4.212 ng/mL) and N/P (n=10; mean 1.400 ng/mL; range 0.644 – 3.326ng/mL).

Conclusions

In anti-PD(L)-1-naïve MIBC, GDF-15 blockade by visugromab tripled the effect size of nivolumab in neoadjuvant therapy, with excellent tolerability. N/V combination warrants further investigation in larger neoadjuvant trials with a tumor response-guided bladder preservation approach.

Clinical trial identification

NCT06059547.

Legal entity responsible for the study

Catalym.

Funding

Catalym.

Disclosure

A. Necchi: Financial Interests, Institutional, Research Grant: Merck, AstraZeneca, Ipsen, BMS, Gilead; Financial Interests, Personal, Steering Committee Member: Janssen, Astellas, AstraZeneca, Merck, Gilead, BMS, Bicycle Therapeutics, Daiichi Sankyo; Financial Interests,

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