

Radical prostatectomy for Gleason 3+3 prostate cancer; who, how and why? Analysis of the British Association of Urological Surgeons complex operations database.

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Background & objectives

There is a risk of overtreating low-grade prostate cancer (PCa) with radical prostatectomy (RP). A preference for active surveillance for localised Gleason 3+3 disease was advocated in the 2018 UK National Prostate Cancer Audit. This reflects the peri-operative risks of major pelvic surgery and the common longer-term functional sequelae following RP.

Objectives

To understand modern RP practices in England for Gleason 3+3 PCa, describing the patient, indication, procedure, and outcomes.

Patients and methods

BAUS manage the complex operations database for RP. Seventy data fields are uploaded by surgical departments, pertaining to patient, disease, surgical, pathological and outcome descriptors. Surgeons can review and amend their data before lockdown and data cleansing. Analysis of all 21,973 RPs recorded in England from 2016-18 was performed to identify 2,627 cases of Gleason 3+3 disease diagnosed pre-operatively.

RPs recorded in database

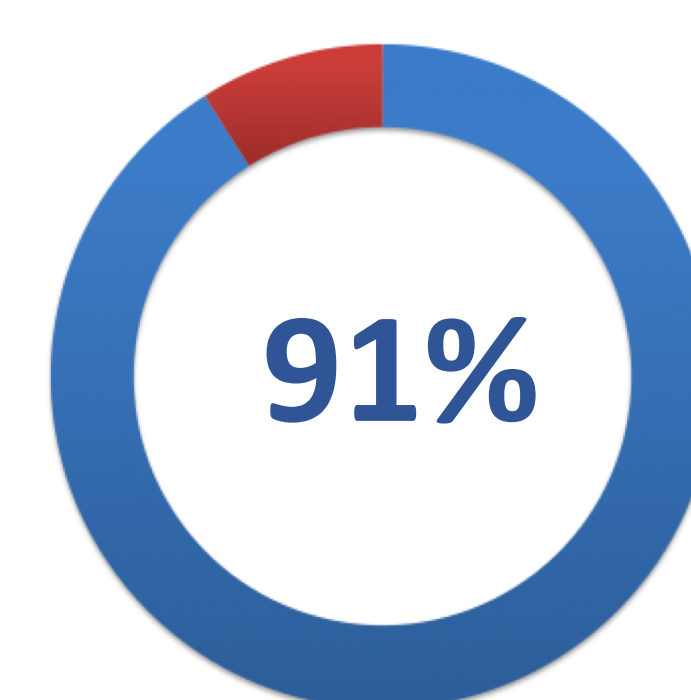


Fig 1. Comparison with HES

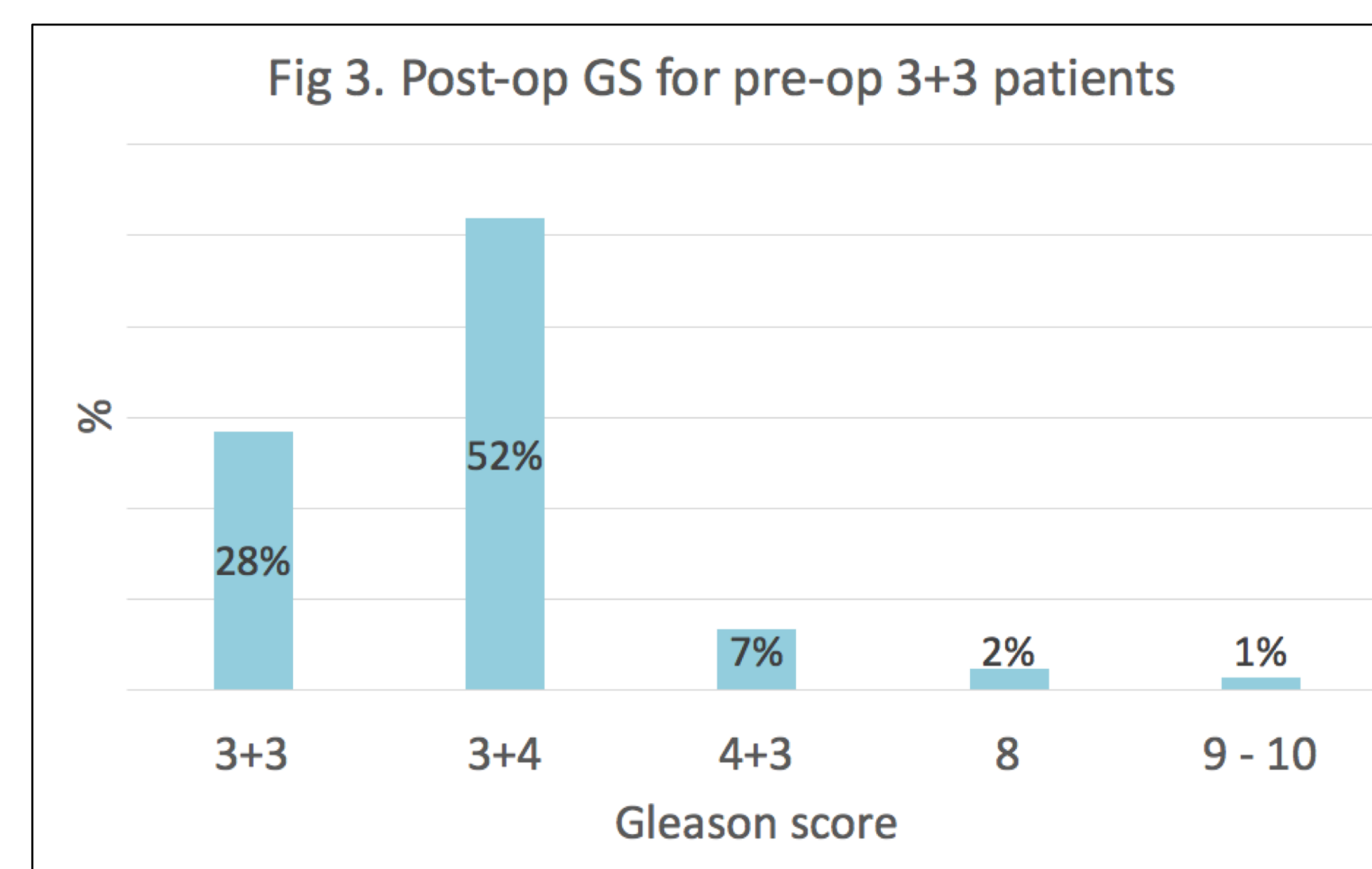
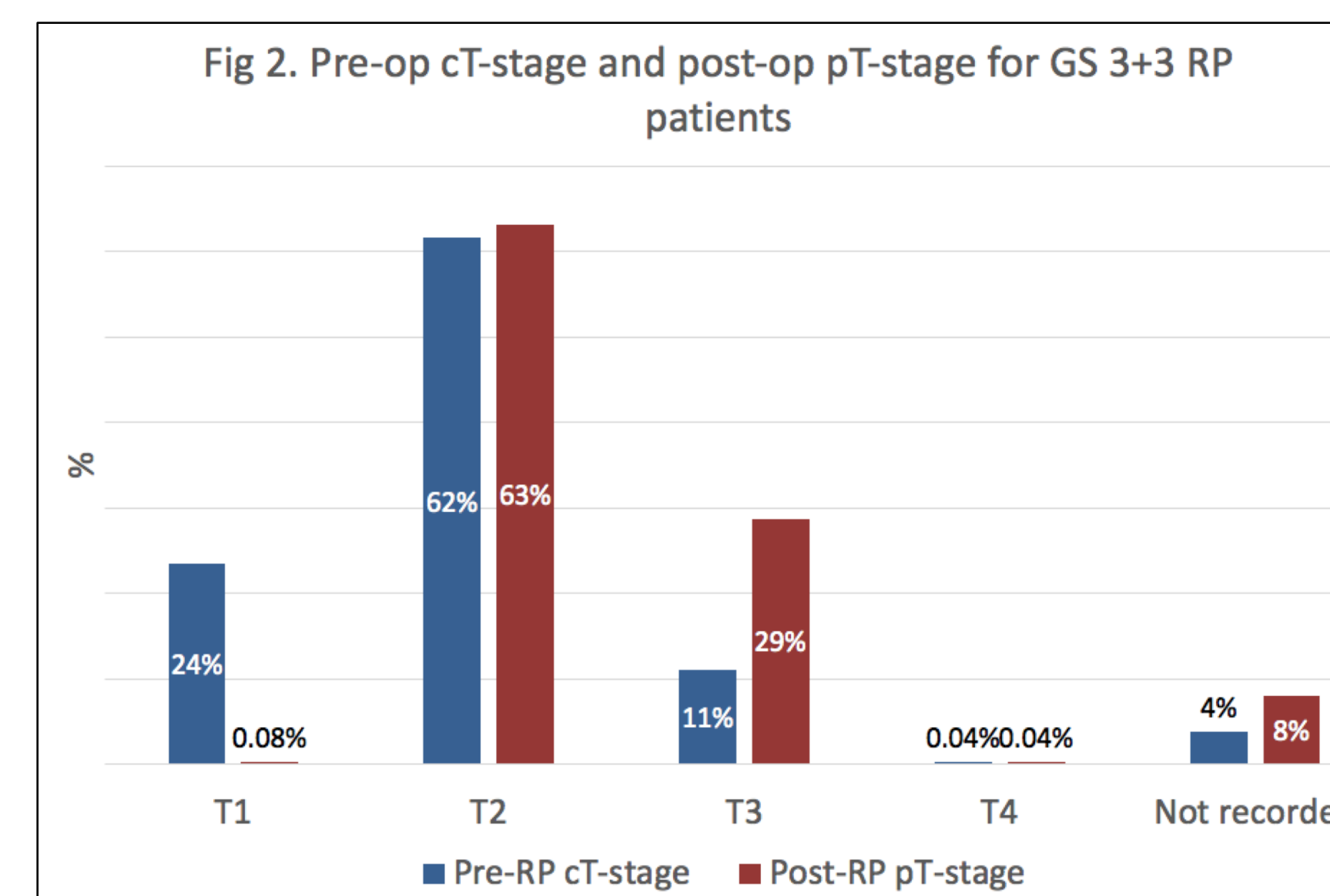
Patient / disease description

- 3+3 patients: 12% of all RPs.
- Median age 63 (IQR 56-68)
- ASA 1-2 in 89%, BMI ≥30 in 21%
- Median PSA 7.0 (IQR 5.1 – 10.4).
- Primary treatment of cancer: 70%
- Previous active surveillance: 28%

Rationale for RP in GS 3+3

Pre-operatively:

- ≥cT2b and PSA ≥10: 261 (10%)
 - ≥cT2b and PSA <10: 618 (24%)
 - ≤cT2b and PSA ≥10: 482 (18%)
- 52% of patients



Surgical practice

Surgical modality	n	%
RARP	2109	80
LRP	297	11
ORP	221	8
Nerve spare	n	%
Bilateral	1401	53
Unilateral	502	19
Lymph node dissection	n	%
Extended	202	8%
Obturator fossae	195	7%
Post-op	n	%
Tranfused	10	0.4
Clavien-dindo 3-4	22	0.8
In hospital mortality	0	0
Pathology	n	%
Upstaged	1005	38%
Downstaged	130	5%

Table 1: disease, surgical and outcome factors
RARP = Robot-assisted radical prostatectomy
LRP = Laparoscopic radical prostatectomy
ORP = Open radical prostatectomy

Conclusions

Justifications identified for RP for 3+3 prostate cancer:

- Intermediate / high-risk disease (PSA≥10, ≥T2b)
- Post-op upstaging or upgrading

Further contributory factors not assessed in this dataset:

- Patient preference
- High disease volume (no. cores / max core length)
- MRI suggesting a higher-grade lesion than biopsy
- Prostate capsule proximity

Peri-operative outcome data indicate that RP in this cohort is safe.