

Appendix

Differential Diagnosis and Pattern Recognition: Causes of Commonly Encountered Patterns on PFUD Tracings

Multichannel pressure flow urodynamic tracings may have an infinite number of different patterns encountered between the various recording channels. What follows is a list of common signal patterns seen on PFUD tracings and their possible cause: some of which are clinically relevant/important and some of which are related to the circumstances of the study or artifactual. This is not meant to be a complete exhaustive list nor a diagnostic list, but rather a practical list of some of the most commonly seen signal patterns on the tracing and their potential explanations.

1. Changes in Pves (P1):

Sudden rise in Pves with concomitant rise in Pabd (Fig. A.1¹):

- cough
- valsalva
- extrinsic compression on abdomen
- patient movement during study
- artifact (rare)

Sudden transient rise in Pves without concomitant rise in Pabd during cough/valsalva (Fig. A.2):

- Artifact only:
 - non-functioning or absent Pabd transducer
 - acute transient obstruction of Pves transducer

¹Figures courtesy of Brett Lebed, M.D.

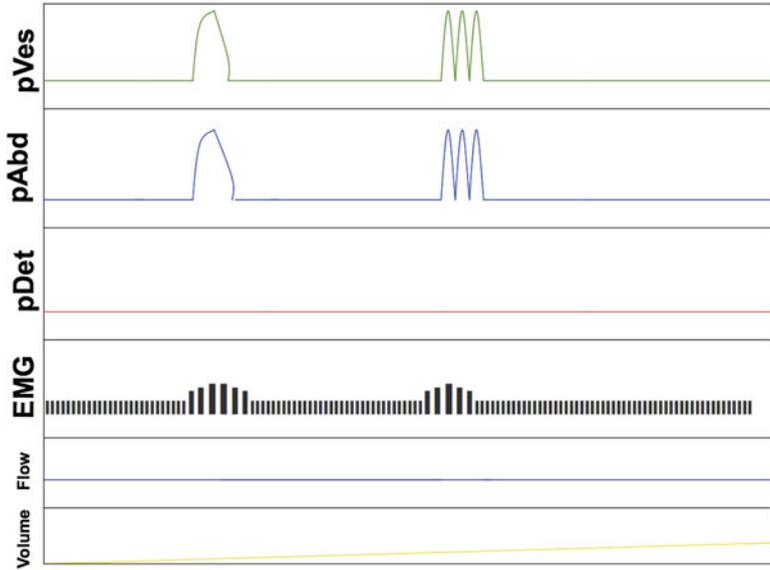


Fig. A.1 Sudden rise in Pves with concomitant rise in Pabd

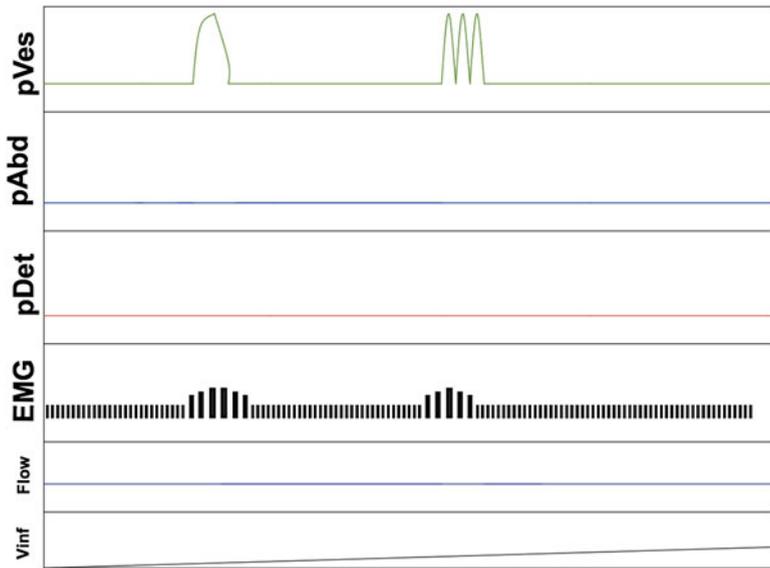


Fig. A.2 Sudden transient rise in Pves without concomitant rise in Pabd during cough/valsalva

Sudden drop in Pves with sudden rise in Pdet (Fig. A.3):

- Artifact only:

Pves catheter is dislodged or migrated or voided out
Movement, blockage, or disconnection of Pves catheter

Sudden sustained rise in Pves without concomitant rise in Pabd (Fig. A.4):

- Sustained tetanic detrusor contraction (rare)
- Artifact

migration of Pves into urethra/bladder neck

Gradual and sustained rise in Pves without rise in Pabd (Fig. A.5):

- Decreased compliance
Neurogenic bladder
Infection
Long-term indwelling catheter with recent removal
- Artifact secondary to supra-physiologic filling

Gradual decrease in Pves with gradual decrease in Pdet (Fig. A.6)

- Artifact only:
Migration of Pves caudad/inferiorly
loss of signal from Pves

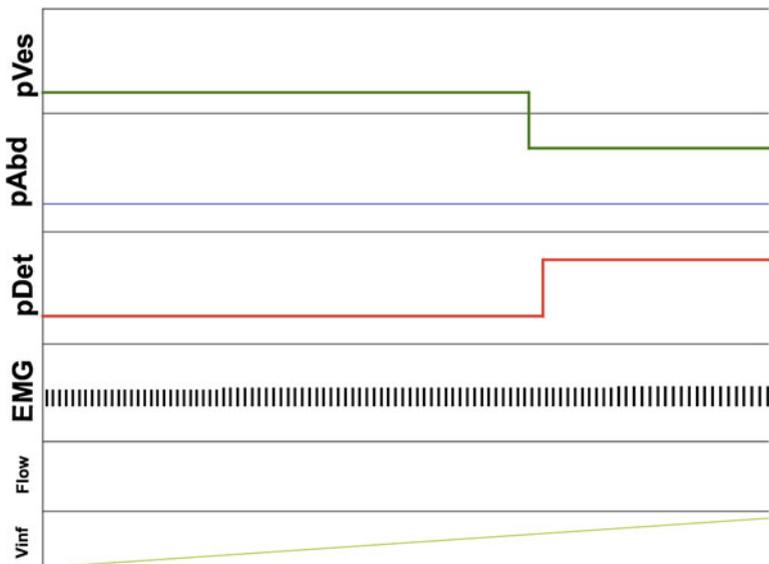


Fig. A.3 Sudden drop in Pves with sudden rise in Pdet

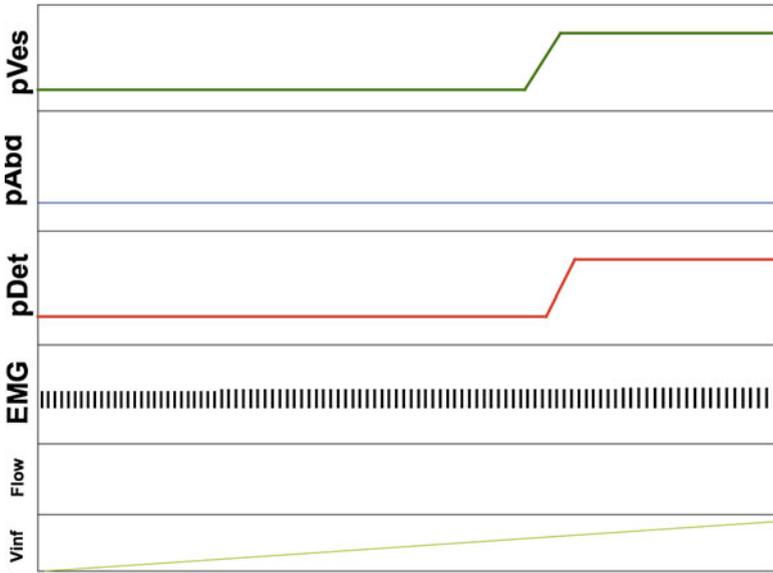


Fig. A.4 Sudden sustained rise in Pves without concomitant rise in Pabd

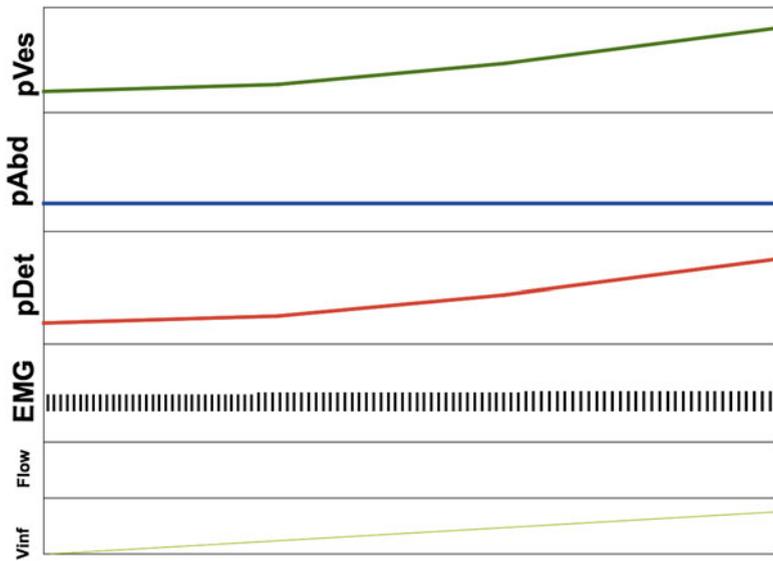


Fig. A.5 Gradual and sustained rise in Pves without rise in Pabd

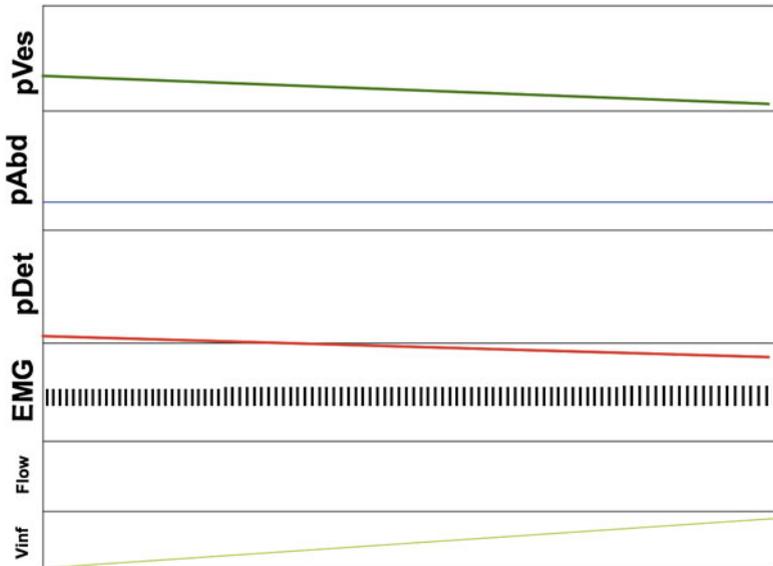


Fig. A.6 Gradual decrease in Pves with gradual decrease in Pdet

Phasic rise in Pves and Pdet without change in Pabd (Fig. A.7)

- Detrusor overactivity

2. Changes in Pdet (detrusor pressure)

Decrease in Pdet without change in Pves (Fig. A.8):

- Artifact only
- migration of Pabd cephalad

Increase in Pdet without increase in Pves (Fig. A.9):

- Artifact only
- migration of Pabd caudad (inferiorly)
- gradual loss of signal from Pves or Pves migration caudad/inferiorly (see Fig. A.6)

Transient/sudden decrease in Pdet without rise in Pves (Fig. A.10)

- Artifact only
- rectal contraction
- Pabd signal transduction problems
- non-functioning Pves catheter during valsalva/cough

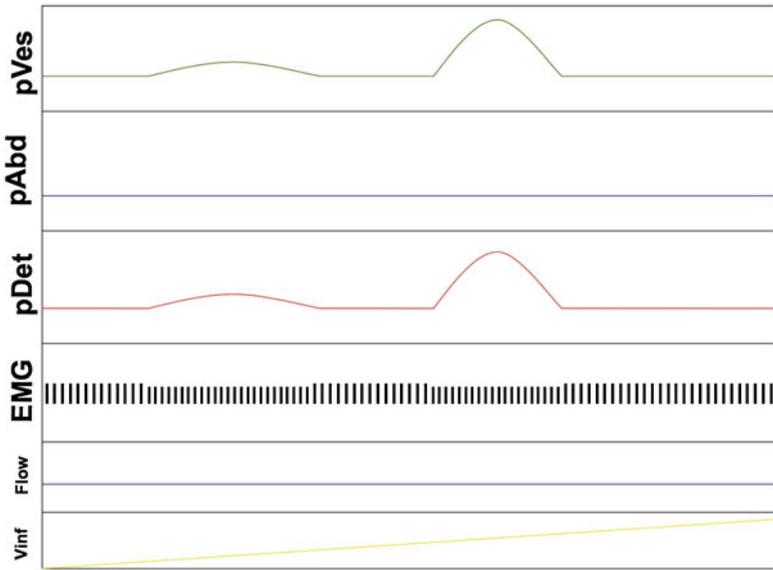


Fig. A.7 Phasic rise in Pves and Pdet without change in Pabd

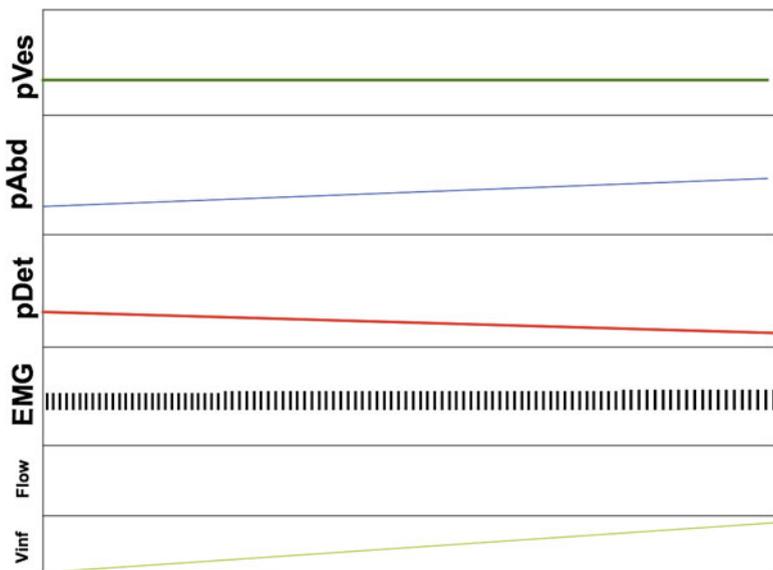


Fig. A.8 Decrease in Pdet without change in Pves

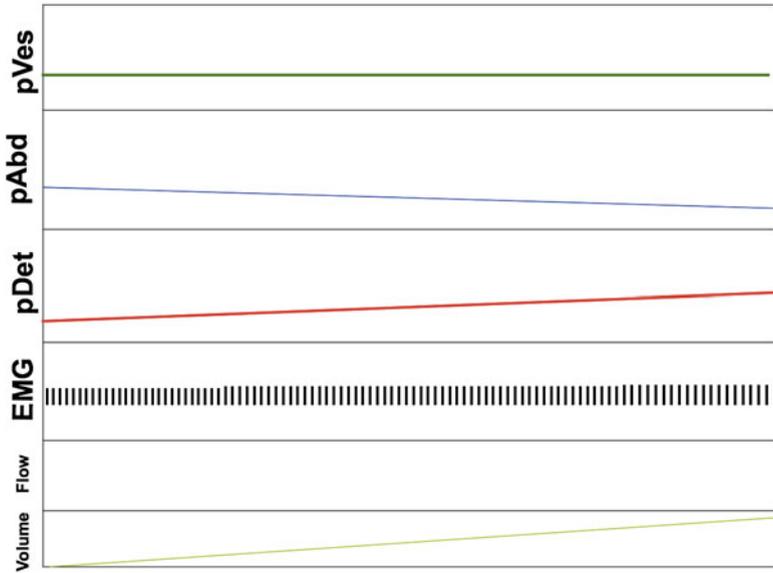


Fig. A.9 Increase in Pdet without increase in Pves

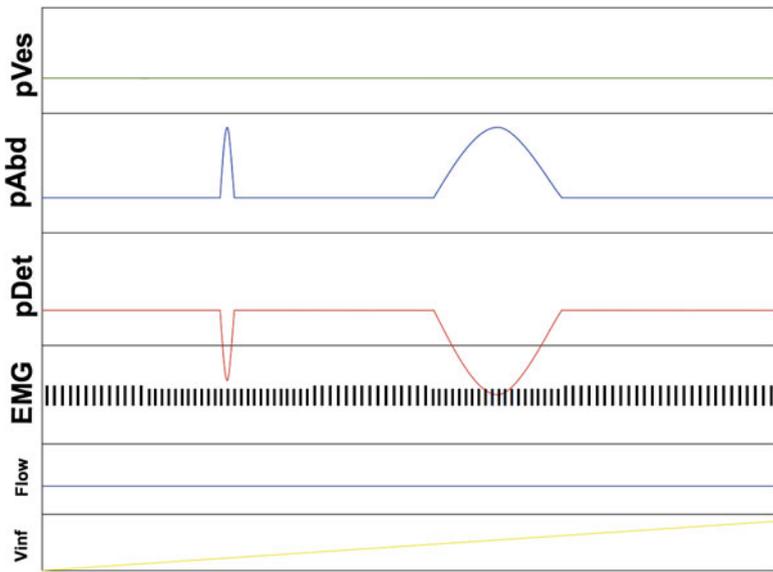


Fig. A.10 Transient/sudden decrease in Pdet without rise in Pves

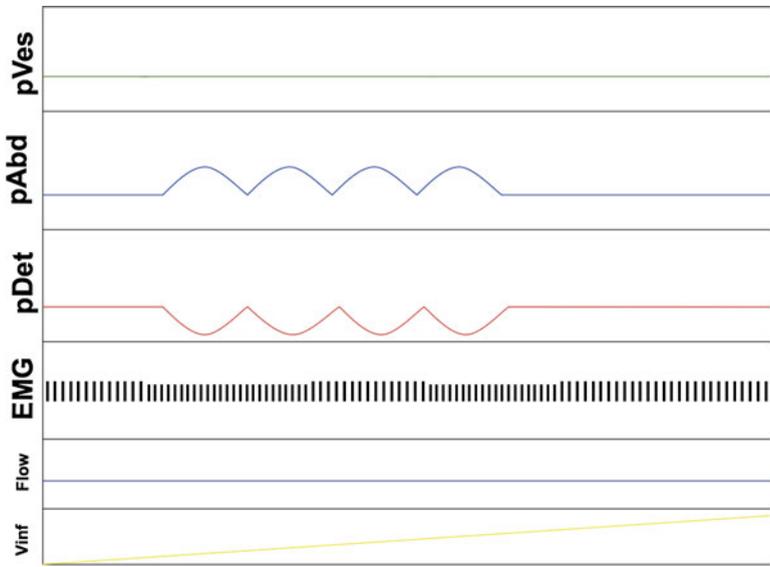


Fig. A.11 Phasic “increases” in Pdet without a rise in Pves

Phasic “increases” in Pdet without a rise in Pves (Fig. A.11)

- Artifact only
- multiple consecutive rectal contractions

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