Conclusion We present this case as a paradigm of surgical challenge, requiring expert gynaecological oncology techniques including retroperitoneal approach, nerve and vessel sparing considerations alongside colorectal and urological procedures. Collaboration and communication between teams allowed us to provide patient-centred care which preserved quality of life. In addition to our novel combination of surgical techniques, we believe that our blueprint for effective multi-disciplinary practice will inform future management of gynaecological oncological surgery.