



Management of miscarriage during the COVID-19 pandemic: an opportunity for service improvement

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Introduction

Manual vacuum aspiration under local anaesthetic (MVA) is a safe, effective and well tolerated procedure for managing miscarriage in early pregnancy [1, 2]. Modern Gynaecological practice places value in offering patients choice in how their care is managed. Traditionally suction termination under general anaesthetic in an operating theatre has been the mainstay of miscarriage treatment but the National Institute for Health and Care Excellence (NICE) now emphasises the importance of individualised care [3] and most units will offer expectant, medical and surgical management. NICE also recommends women be offered the choice between surgical management under general or local anaesthetic [4]. Increasingly care is being provided in an outpatient setting which carries benefits both in terms of improving patient experience by reducing time in hospital as well as decreasing costs related to admission, staffing and equipment. MVA is an awake procedure performed in a clinic room under local anaesthetic with a recovery time of 30 - 60 minutes. In 2020 the COVID-19 pandemic led to guidance urging units in the UK to avoid aerosol generating procedures (such as intubation), avoid in-patient admissions, and avoid repeat visits to hospital in order to reduce the risk of transmission [5]. This led to a change of practice within our unit and promotion of MVA as first line surgical management of miscarriage treatment.

This study looked at numbers of patients undergoing each option for management of miscarriage during the pandemic in comparison to pre-pandemic figures. Complication rates and length of time spent under the care of the unit were also analysed. Patients were surveyed after MVA to investigate patient experience and acceptability of the procedure using the British Society of Gynaecological Endoscopy's (BSGE) MVA patient satisfaction survey. The financial implications of this change of practice were also evaluated.

Method

Inclusion criteria: all patients attending Homerton University Hospital with early miscarriage (less than 12 weeks gestational age) or persistent placental tissue diagnosis on an ultrasound examination during May 2021. In our unit MVA is only offered if products of conception on ultrasound measure less than 50mm mean diameter. Within the study population from 2021 no patient's ultrasound report showed products of conception measuring greater than 50mm, thus all were potentially suitable for MVA. Data were prospectively collected for patients undergoing MVA by the early pregnancy nurse specialists. Data for patients having other forms of treatment were collected retrospectively. The audit function of the software used within the unit for ultrasound scan reporting (ViewPoint™) was used to identify the patient population undergoing other treatments for management of miscarriage and the electronic patient record software used by the hospital (Cerner EPR™) was used to collect data on outcomes. Search terms used within ViewPoint™ were 'incomplete miscarriage', 'missed miscarriage', 'complete miscarriage' and 'retained products of conception'. Complications and total time attending the unit were then found by using Cerner EPR™. Data analysis was performed using MS Excel v16 (Microsoft, Redmond, WA, USA). Comparisons were made with data from previous audits in 2019 (pre-pandemic) and 2020 (during pandemic). The study was conducted as part of our unit's audit and service evaluation activities and as such no ethical approval was sought.

Acknowledgements

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Method	Complication rate (no.)	Median time under unit (days)
MVA	12% (3)	6
MMM	55% (12)	5
Conservative	24% (8)	9
SMM	50% (1)	13

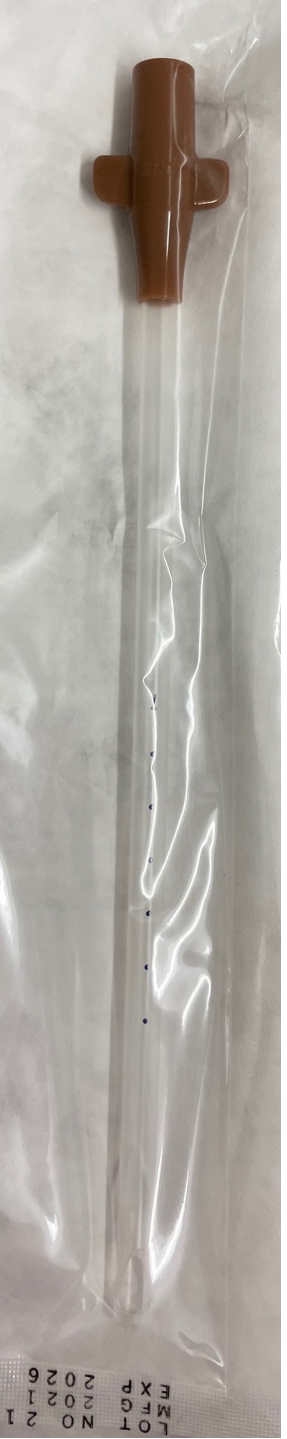
Table 1. 1st line methods of management of miscarriage May 2021. MMM = medical management of miscarriage, SMM = surgical management of miscarriage under general anaesthetic

	May 2019	May 2021
MVA number	9	25
MVA net income	+£6705	+£18625
SMM number	19	3
SMM net income	-£5168	-£816
Estimated profit per annum	+£18,444	+£213,708

Table 2. Cost analysis of impact of change in practice to predominantly MVA service. Cost estimates obtained from hospital management.



Picture 1. Equipment set used at our unit for performing MVA



1ST LINE METHOD OF MANAGEMENT OF MISCARRIAGE 2019

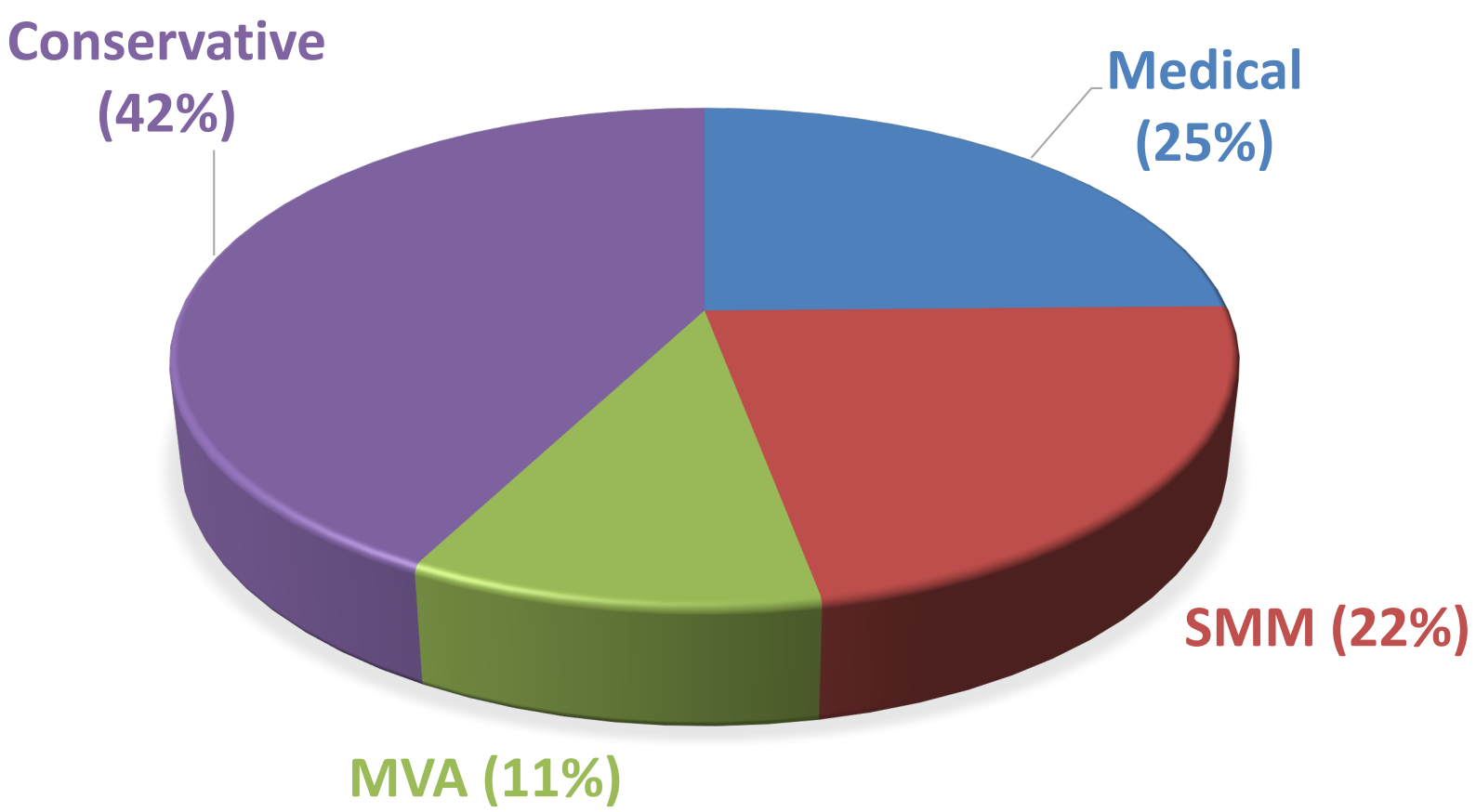


Chart 1

1ST LINE METHOD OF MANAGEMENT OF MISCARRIAGE 2020

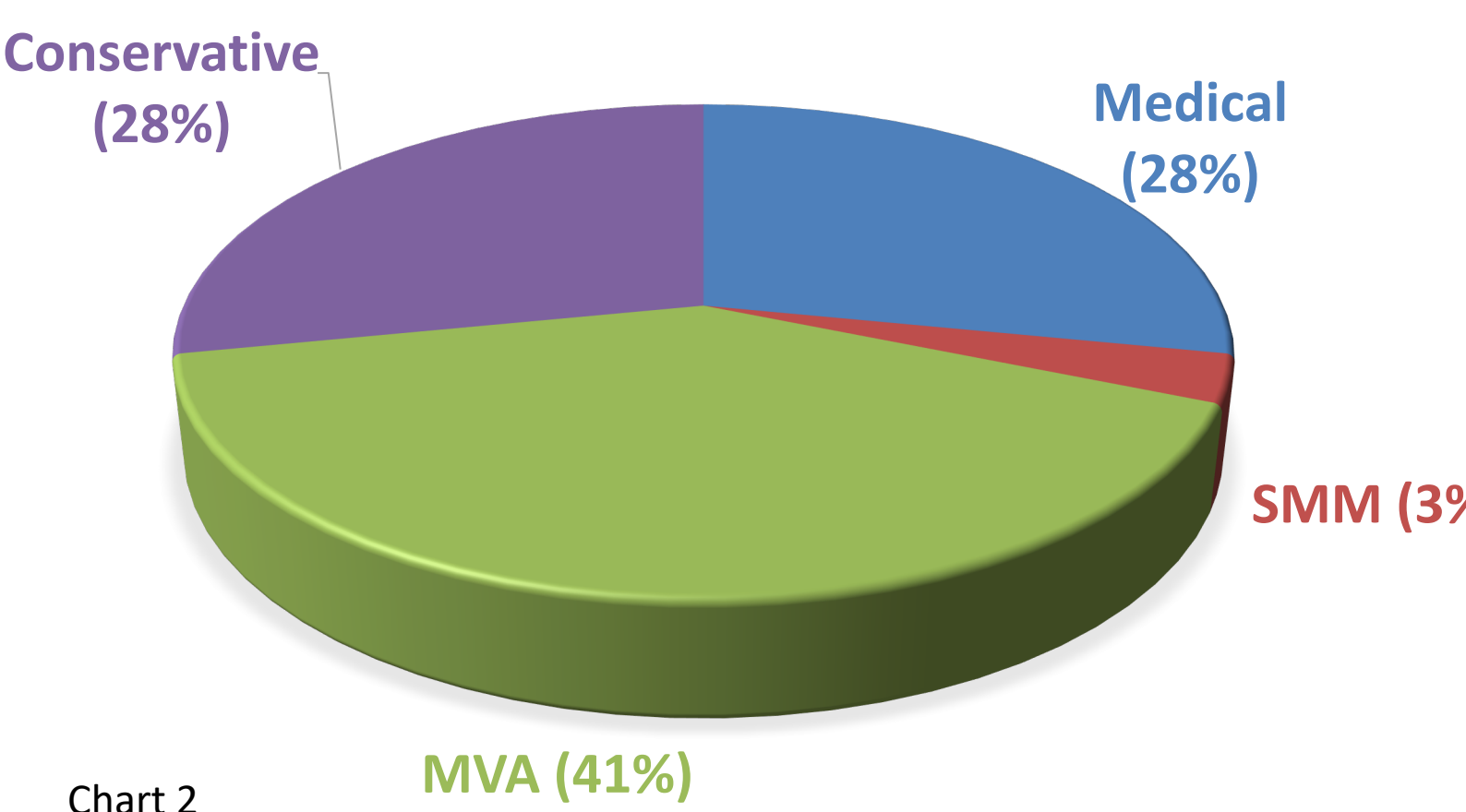


Chart 2

1ST LINE METHOD OF MANAGEMENT OF MISCARRIAGE 2021

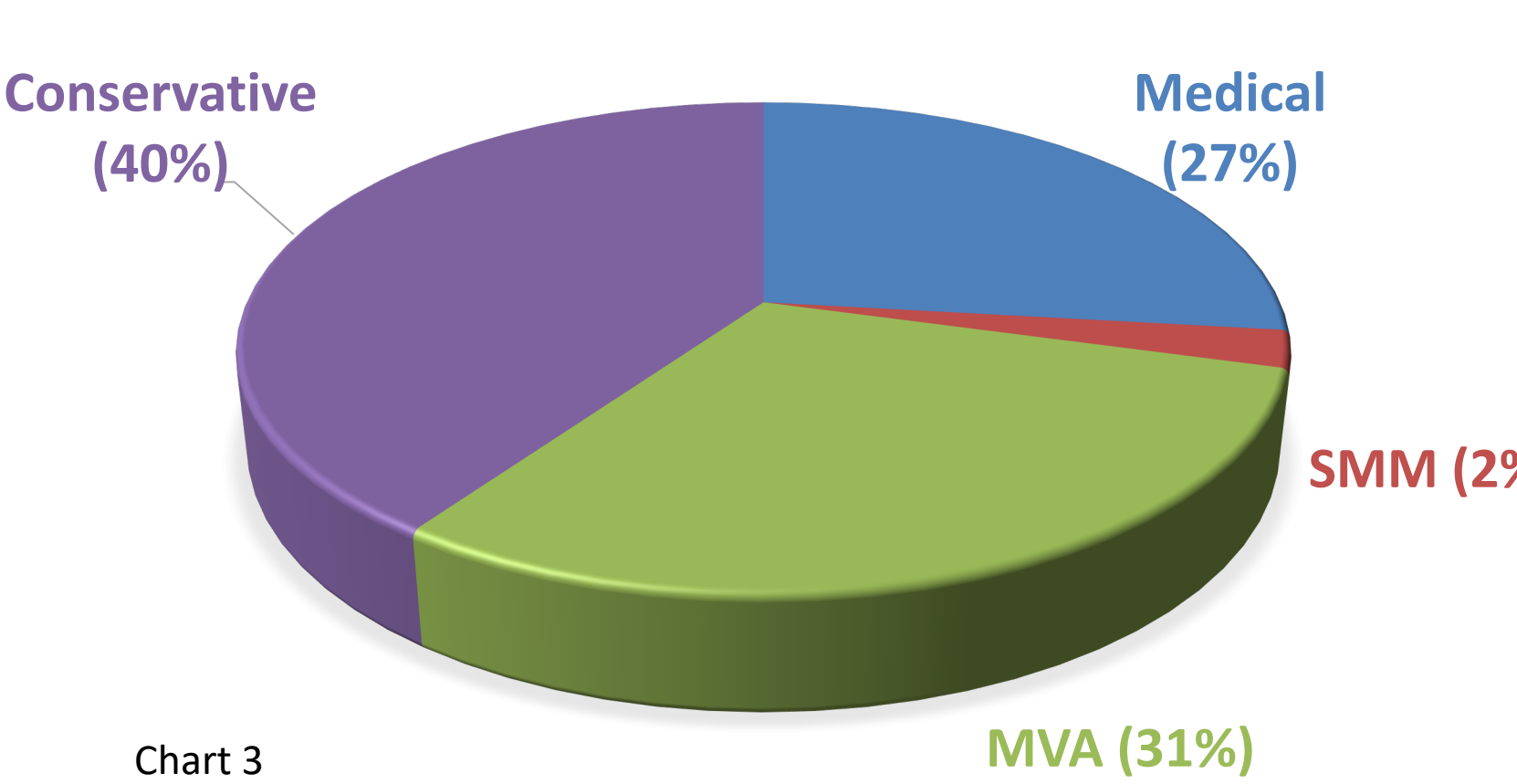


Chart 3

Results

83 patients with a diagnosis of miscarriage or persistent placental tissue by ultrasound were identified, 1 was excluded due to loss to follow up, 82 cases were analysed. Table 1 shows the rate of treatment option selected as first line in 2021, the overall complication rates for each method and median time under the unit in days.

Of the 3 MVA patients who had a complication – two had retained products of conception (RCPOC) and needed further treatment (8%) and one could not tolerate the procedure due to pain. RPOC was the most common complication for all treatment modalities; out of 24 patients who had a complication 19 had RPOC(79%). Overall out of all patients being managed 23% had RPOC, mostly comprising patients undergoing medical and conservative management. Figures 1, 2 and 3 show the distribution of patients between each management option by year for May 2019-2021. There was been almost a tripling in the percentage of patients having MVA as first line management. Compared to 2019, 2021 shows roughly the same proportion of patients having surgical management overall but a massive reduction in patients having the procedure under general anaesthetic. The MVA provision has been maintained for 2020-2021, suggesting a lasting change in practice for our unit.

Initially 12 women were surveyed with the BSGE's MVA patient satisfaction survey immediately after their procedure. A further 8 have been collected from subsequent months up to May 2022 in order to increase numbers and improve the validity of findings (total 20 questionnaires analysed). 95% of respondents said their experience of the service was 'excellent' or 'good', 'good' and 75% would choose this method again in future. 85% said they experienced pain only somewhat or slightly.

References

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Conclusion

This study was performed as a service evaluation following changes quickly brought about due to the pandemic. Although clearly the impact of the pandemic on health has been largely negative it did force the NHS to adapt and change much more quickly than usual. As we return to service as usual it is important to assess these changes and not automatically assume that a return to pre-pandemic protocols is necessarily best. Considering pay scales for how the NHS remunerates hospitals for each SMM and MVA performed shows that overall hospitals make money with MVAs. Table 2 estimates the financial impact of reduction in SMM rate with increase in MVA provision – for the past 2 years it is estimated to have made the hospital over £200,000 per annum.

Although MVA as a procedure has been around for many years it is not uniformly available in the UK. This study shows it is possible to quickly increase provision and that it is acceptable to the patient population at Homerton – highly ethnically diverse with a very wide range of socio-economic levels. As requirements for performing MVA are much less complex than SMM it has the possibility of being offered more quickly with no need for the patient to be starved. In order for this increased service provision it is important to ensure adequate numbers of professionals are trained. As with any invasive procedure under local anaesthetic confidence in the technique and excellent communication skills are essential to ensure positive patient experience. Currently in the UK there is no requirement for doctors training in Obstetrics and Gynaecology to learn how to perform MVA – formally adding this to the training requirements would be one way to guarantee that future health professionals will gain competence and experience from early on which would support service expansion.