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Management of Prolonged Pregnancy

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On December 6, 1999, under Public Law 106-129, the Agency for Health Care Policy and Research (AHCPR) was reauthorized and renamed the Agency for Healthcare Research and Quality (AHRQ). The law authorizes AHRQ to continue its research on the cost, quality, and outcomes of health care, and expands its role to improve patient safety and address medical errors.

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Preface

The Agency for Healthcare Research and Quality (AHRQ, formerly the Agency for Health Care Policy and Research, AHCPR), through its Evidence-based Practice Centers (EPCs), sponsors the development of evidence reports and technology assessments to assist public- and private-sector organizations in their efforts to improve the quality of health care in the United States. The reports and assessments provide organizations with comprehensive, science-based information on common, costly medical conditions and new health care technologies. The EPCs systematically review the relevant scientific literature on topics assigned to them by AHRQ and conduct additional analyses when appropriate prior to developing their reports and assessments.

To bring the broadest range of experts into the development of evidence reports and health technology assessments, AHRQ encourages the EPCs to form partnerships and enter into collaborations with other medical and research organizations. The EPCs work with these partner organizations to ensure that the evidence reports and technology assessments they produce will become building blocks for health care quality improvement projects throughout the Nation. The reports undergo peer review prior to their release.

AHRQ expects that the EPC evidence reports and technology assessments will inform individual health plans, providers, and purchasers as well as the health care system as a whole by providing important information to help improve health care quality.

We welcome written comments on this evidence report. They may be sent to: Director, Center for Practice and Technology Assessment, Agency for Healthcare Research and Quality, 6010 Executive Blvd., Suite 300, Rockville, MD 20852.

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Structured Abstract

Objective. Approximately 18 percent of pregnancies in the United States extend beyond 41 weeks gestation, 7 percent beyond 42 weeks. Risks of adverse perinatal and maternal outcomes increase with increasing gestational age beyond term. This report assesses the literature on the benefits, risks, and costs of different strategies for managing prolonged pregnancy in order to avoid adverse perinatal and maternal outcomes.

Search Strategy. Published literature on the management of prolonged pregnancy was identified in MEDLINE, CINAHL, EMBASE, HealthSTAR, the Cochrane Database of Systematic Reviews, and the Database of Abstracts of Reviews of Effectiveness for the years 1980 through 2001. MeSH terms included "pregnancy,prolonged" and "post$ pregnan$.tw".

Selection Criteria. Study designs considered included randomized controlled trials, cohort studies, and large ($n \geq 20$) case series with or without controls. Studies were included if the study population included women with prolonged pregnancy and data were provided that were relevant to one or more of the key research questions. Studies were excluded from formal abstraction if they did not report on original research, the patient population did not include women with prolonged pregnancy, the study design was a single case report or small case series, or a 2-by-2 table could not be constructed (for studies of test characteristics).

Data Collection and Analysis. Paired reviewers independently screened each abstract and article and performed the data abstraction. Included studies were graded for internal and external validity. Supplemental data were collected from the Nationwide Inpatient Sample.

Main Results. Although there is no direct evidence that antepartum testing reduces perinatal mortality in prolonged gestation, retrospective data suggest that morbidity may be reduced. Selection of appropriate outcomes for evaluating antepartum testing is difficult since mortality and morbidity are rare, and commonly used surrogate markers have substantial weaknesses. All currently used tests and combinations of tests have better specificity than sensitivity but good negative predictive values. There are no definitive data supporting the superiority of any particular testing method.

Most studies of interventions for the induction of labor do not report results specifically for women induced because of prolonged pregnancy or its complications. In general, agents that result in more efficient induction of labor also have higher rates of fetal heart rate pattern changes associated with frequent uterine contractions.

Pooled analysis of randomized trials of planned induction versus expectant management with antepartum testing suggests that planned induction reduces the risk of perinatal death with no increase in other perinatal or maternal morbidity, including cesarean section. At least 500 inductions are needed to prevent one perinatal death.

There are virtually no data on patient values and preferences for management options. There also are no published data on potential differences in epidemiology or outcomes of prolonged

pregnancy in racial, ethnic, or socioeconomic subgroups and no data allowing comparison of the cost-effectiveness of different strategies for managing prolonged pregnancy.

Conclusions. Induction of labor at 41 weeks or beyond results in fewer perinatal deaths compared with antepartum testing, but at least 500 inductions are necessary to prevent one death. There is insufficient evidence to recommend any specific induction agent in this setting. Additional high-quality research is needed.

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