



# The Impact of Placental Examination in the Autopsy of the Structurally Normal Stillborn

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## Background

Intrauterine fetal demise (IUFD) of an apparently normal fetus is an emotionally devastating event for both patients and clinicians.

Identifying the cause of death (COD) in these cases not only brings emotional closure but may also help with future pregnancy planning. The placental examination is recognized as an important component of the fetal autopsy.

The purpose of this study: to evaluate the contribution of the placental examination in the determination of COD in structurally normal stillborns.

## Methods & Materials

Autopsy records at our institution from 01/01/1987 through 12/31/2007 were reviewed. Cases with structural abnormalities were excluded.

New departmental postmortem policy initiated in 1992: Prior to policy: fetal autopsies did not routinely include correlative placental examination. After policy: placental examination strongly recommended on all perinatal cases.

Cases were categorized by whether evaluation of placenta provided:

1. New information and COD.
2. Confirmatory evidence.
3. No additional information.

To assess The impact of this new postmortem examination policy on rates of assignment of COD after autopsy of structurally normal fetuses, the importance of placental examination and the frequency of COD.

## Results

Fig. 1: During 21-year period, number of cases examined.

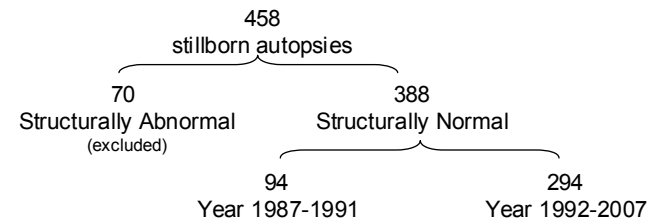
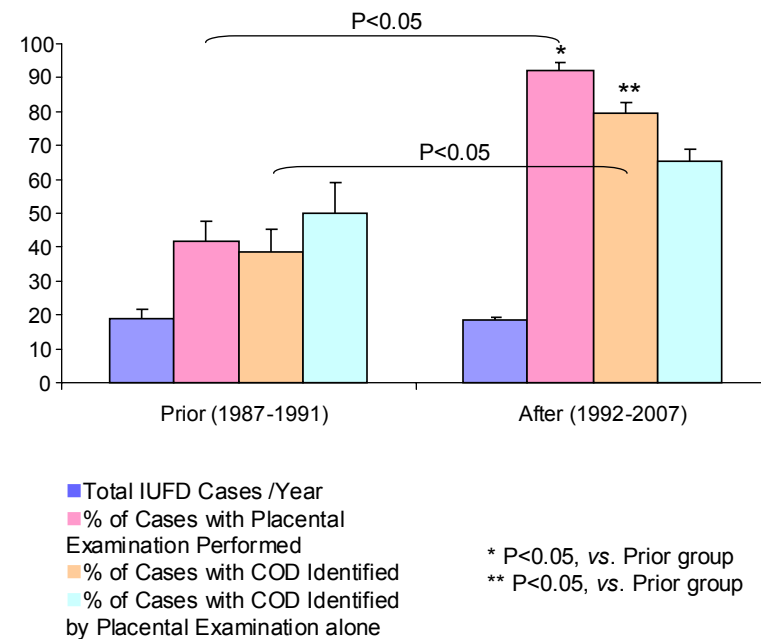


Fig. 2: Impact of postmortem policy change on determination of cause of intrauterine death of structurally normal fetuses.

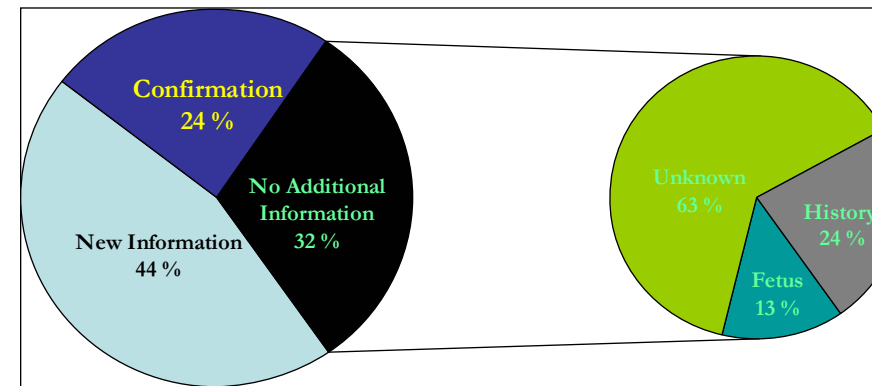


## Results

Fig 3: Impact of postmortem policy change on the frequency of various causes of intrauterine death of structurally normal fetuses.

COD \ Frequency	1987-1991	1992-2007
Placental insufficiency (CPC)	11%	31%
Infection	35%	27%
Placental abruption	30%	13%
Cord accident	11%	11%
Other	13%	18%

Fig. 4: Contribution of placental examination in the COD determination. (Year 1987-2007)



## Summary

- The number of autopsied cases of IUFD/year did not significantly change over the 21-year period of study.
- The implementation of the new policy significantly raised the number of placentas submitted for pathologic examination on cases of IUFD.
- The rate of identification of intrauterine fetal COD increased significantly after the policy change.
- The rate of identification of COD, by placental examination alone, increased from 50 % to 65% with the policy change.
- Placental examination (N = 309) revealed the COD in 44% of cases and added confirmatory evidence in additional 24% of cases. COD included in order of frequency: placental insufficiency –36%, infection – 32%, placental abruption – 13%, and other –21%.

## Conclusion

Placental examination plays a major role in the determination of cause of death in structurally normal stillborns. We found the cause of death of intrauterine fetal demise was identified in 68% of such cases when routine pathologic examination of the placenta was integrated into the autopsy evaluation.

## References

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