Abstract

Objective: An international panel in the field of body fluid cytopathology, supported by the International Academy of Cytopathology and the American Society of Cytopathology, conducted a survey to identify opinions and explore existing practice patterns regarding body fluid cytopathology.

Methods: The study group generated a survey of 54 questions related to the practice and taxonomy of body fluid cytopathology. The survey was available online from August 28 to December 10, 2018. Invitation to participate was accomplished through the website and listserv of the professional societies.

Results: 593 participant responses were collected internationally. Questions pertained to practice patterns and diagnostic language. Information was collected regarding credentials, work setting, work volume (4,400 10,000 samples) and years in practice (0-60 years). Responses revealed variation in diagnostic practice and sample management. Direct smears and ThinPrep preparations are the most popular methods, followed by CytoSpin and SurePath preparations. 70% perform ancillary studies on their specimens with over 50% employing a cell block as the preparation of choice. Approximately 32% indicated that they can perform genetic studies on the samples. Nearly 78% of participants would accept a two-stage cytology report, with a preliminary assessment followed by a final diagnosis that accounts for ancillary studies to generate a more precise cytologic interpretation. 36% never report adequacy on body fluid samples. 78% yield a general category answer (negative, atypical, suspicious, or positive) and 22% provide a detailed surgical pathology type report. 74% of participants believe that both Papanicolaou stains and modified Giemsa stain (e.g., Diff-Quik) should be standard preparations for all serous fluids.

Conclusions: The survey indicated that more than three quarters of participants are in favor of a unified system of reporting for serous fluid cytopathology. Further, they would accept a more regular practice of two stage serous fluid reporting, where a preliminary diagnosis would be based on the initial cytopathic preparation and, if necessary, the final report would await cell block preparation and ancillary studies, including immunocytochemistry and genetic studies, in order to routinely come up with a definitive diagnosis.

Introduction

The practice of cytopathology continues to mature with the development of internationally recognized systems for gynecologic, thyroid, urothelial, breast and salivary gland cytopathology specimens. The need for such systems has been amply demonstrated by surveys demonstrating variability in the reporting of serous fluid cytopathology and whether there was interest in a serous fluid reporting system.

Survey Highlights

- 70% (374/532) of respondents regularly perform ancillary studies on serous fluid samples.
- For ancillary tests, 53% (345/649) use cell blocks, 15% (98/649) use CytoSpin®, 13% use direct smears, and 12% use ThinPrep®.
- 73% (279/378) perform ancillary testing on atypical and suspicious samples in order to more accurately classify a suspected abnormality. 32% (158/501) indicate that they can perform genetic studies on serious fluid samples, with FISH (48%, 115/230) and Next Generation Sequencing (41%; 98/240) being the most popular modalities.
- Approximately 56% (108/196) perform genetic testing in house. 78% (383/493) would accept a two-stage report algorithm while awaiting confirmatory studies. 64% (242/376) indicate that they currently practice using a two-stage report algorithm.
- 90% (385/429) add a general category (negative, atypical, suspicious or positive) to their reports.
- 32% (150/475) report adequacy on all samples, 33% report adequacy on some samples and 36% do not report on adequacy.

Population (593 participants)

- Those that only report adequacy on some specimens do so when samples are too degenerate, poorly stained or poorly cellular for interpretation.
- 76% (362/477) do not require a specific number of cells for adequacy and 59% (271/463) do not believe it is reasonable to do so.
- 61% (281/463) would make a diagnosis of mesothelioma if the cytology and immunocytochemistry are supportive. 97% (388/402) want to see a section on mesothelioma in the forthcoming Serous Fluid Monograph.
- 74% (295/401) believe that both Papanicolaou stains and modified Giemsa stains (e.g., Diff-Quik) should be standard preparations for all serous fluids.

References

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- Standard Terminology Systems in Cytopathology, Kartin Sundling, MD, PhD, and Daniel F.I. Kurtycz, MD, PhD; Diagnostic Cytopathology, 2019; vol. 47, p. 53-63; doi: 10.1002/cncy.20189