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Choosing between Competing Cytology Laboratory Technologies

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Introduction

For more than a century, sea urchin development has been extensively studied and considered regulative since the first experimental evidence. Further research has consistently supported this viewpoint, revealing the presence of inductive mechanisms that alter cell fate decisions at early cleavage stages, as well as the flexibility of development in response to environmental cues. Some characteristics suggest that sea urchin development is not entirely regulative, but rather includes determinative events. Mesomeres and macromeres represent multipotency in 16-cell embryos, whereas most vegetal micromeres have a limited cell fate. The asymmetrical distribution of some maternal mRNAs and proteins is known to polarise mature sea urchin eggs.The orientation of the primary animal-vegetal axis is established by both maternal factors that are spatially distributed [1].

Description

Coastal waters are typically inhabited by sea urchins. They are Echinoidea (which also includes sand dollars and pencil urchins), one of the phylum Echinodermata's persisting classes. Sea urchins produce millions of gametes during spawning. Their embryos are transparent, making them easy to manipulate and cultivate in aquariums. The majority of the species are the result of indirect development via planktonic larvae plutei that undergo metamorphosis. Although sea urchins are currently less popular developmental biology models than Drosophila, C. elegans, zebrafish, Xenopus, and mouse, they have a long history in science dating back to the middle of the nineteenth century. Since then, sea urchins have played an important role in developmental and molecular biology. An in-depth look at major discoveries in sea urchins can be found in an article [2].

Users in cytology are typically required to screen an entire slide (a task typically performed by a cytotechnologist) before interpreting cytological material (e.g. cells and background material). When screening all of the material on a slide, the user finds and marks (typically with a marker pen on glass slides) the areas (e.g., abnormal cells) that are important for making a diagnosis. To effectively screen slides, the user must be able to easily navigate the slide (i.e. pan around in the x and y axes). However, using a computer mouse to screen slides is time consuming and tedious [3].

Annotating important areas of a digital slide with imaging software is similar to "dotting" a glass slide. Available image viewers support a wide range of annotations (for example, colours and shapes) that can be saved alongside an image. This software feature allows screeners and final reviewers to communicate more effectively. 6 Hidden annotations can be revealed later using the built-in annotation capability, which can also be used for teaching and testing trainees. Because pen markings on glass slides can affect focusing and/or cause image artefacts with some scanners, it is preferable to annotate images before scanning them.

Telecytology is the interpretation of digital cytology images from a distance. This can be used for ROSE, making primary diagnoses, getting second opinions (teleconsultation), and interpreting special studies remotely (e.g. immunocytochemistry). 15 Telecytology has yet to be widely adopted for remote cytology screening, which would be ideal in underserved countries with a cytology shortage. Static, video, robotic, and WSI modalities have all been evaluated for use in telecytology practise. Video applications appear to be the most practical and popular method for ROSE at the moment.

This study examines changes in job tasks performed by practising CTs using data from the two most recent BOC Practice Analysis Surveys, conducted in 2009 and 2015. A longitudinal comparison of these two Cytotechnology Practice Surveys reveals recent changes in the scope of cytotechnology practise. This comparative analysis adds to the body of data gathered by the ASC/ASCP Workgroup to inform the development of CT education and practise resources.

The percentage of respondents who said they completed each task was calculated separately for each year group. For each task, the percentile changes in these values were calculated between the two individual surveys. The percentile changes were then divided into quartiles, and the top quartile or top two quartiles for each analysis were reported [4,5].

Conclusion

The question structure for laboratory roles differed between 2009 and 2015, making comparison between the two years difficult. In 2009, CT respondents had the option of selecting multiple roles. In contrast, the 2015 survey asked respondents to choose only one primary role. In both 2009 and 2015, the majority of respondents (92.1% and 100%, respectively) reported a full-time nonsupervisory role as their current position. Unemployed, recently retired, temporary management position, and quality assurance specialist were all included in the "other" category. In 2015, 45.5% (107 of 235) of respondents said they had a bachelor's degree, 48.1% (113 of 235) said they had training beyond a bachelor's degree, and 6.4% (15 of 235) said they had less than a bachelor's degree. The 2009 survey did not collect educational data for comparison.

References

1. Sobolewska, Bianka, Soon-Phaik Chee, Fatma Zaguia and Debra Anne Goldstein, et al. "Vitreoretinal lymphoma." *Cancers* 13 (2021): 3921.
2. Frenkel, Shahar, Jacob Pe'er, Ron Kaufman and Bella Maly, et al. "The importance of cytokines analysis in the diagnosis of vitreoretinal lymphoma." *Acta Ophthalmol* 98 (2020): e668-e673.
3. Wang, Yujuan, Defen Shen, Vinson M. Wang and H. Nida Sen, et al. "Molecular biomarkers for the diagnosis of primary vitreoretinal lymphoma." *Int J Mol Sci* 12 (2011): 5684-5697.
4. Yonese, Ichiro, Hiroshi Takase, Mayumi Yoshimori and Erika Onozawa, et al. "CD79B mutations in primary vitreoretinal lymphoma: Diagnostic and prognostic potential." *Eur J Haematol* 102 (2019): 191-196.

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5. Lee, Junwon, Borahm Kim, Hyeonah Lee and Heejung Park, et al. "Whole exome sequencing identifies mutational signatures of vitreoretinal lymphoma." *haematologica* 105 (2020): e458.

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