Renal Cell Carcinoma and Genomics


Department of Urology, JN Medical College, KLE Academy of Higher Education & Research, JNMC Campus, Belagavi-590010, Karnataka, India.

Abstract

A renal mass/Renal cell carcinoma has a range of histologies and tumour phenotypes that it presents with a particular challenge to treat them. A renal mass can range from benign (oncocytoma) to a clinically indolent malignancy (papillary type 1, chromophobic) to aggressive disease (papillary type II or high-grade clear cell renal cell carcinoma (ccRCC)). Even among various subtypes, kidney cancers are genetically diverse with variable prognoses and treatment response rates. The key to proper management depends on the identification of these subtypes. Currently, a wide array of diagnostic, prognostic, and predictive biomarkers are available to help guide the individualized care of kidney cancer patients.

Keywords: Renal cell carcinoma • Genomics • Biomarkers • Genomic Alterations • Tumour

Introduction

Renal cell carcinoma (RCC), accounts for 2% to 3% of all adult malignancies, and is the most lethal of all the common urologic cancers. Approximately 73,750 new cases of RCC are diagnosed each year in the United States alone, and 14,630 patients are reported to die of the disease. RCC is primarily a disease seen in the older adults, with typical presentation between 55 and 75 years of age [1]. Most of the cases of RCC are sporadic and only 4% to 6% are believed to be familial in occurrence [1, 2, 3]. Cryptorchidism, family history of testicular cancer, a personal history of testicular cancer, and intratubular germ cell neoplastic (ITGCN) are the four well-established risk factors for testicular cancer [2, 3]. Serum tumour marker levels are obtained at diagnosis, after orchiectomy, so as to monitor for response to chemotherapy, and to monitor for relapse in patients on surveillance and after completion of therapy [4].

Case Report

The decisions regarding the initial management and the prognosis of the GCT are dictated by CS of the disease, which is based on the histopathologic findings and pathologic stage of the primary tumour, serum tumour marker levels measured after orchiectomy, and the presence and extent of metastatic disease as determined by physical examination and staging imaging studies [1] (Figure 2). The American Joint Committee on Cancer (AJCC) and International Union Against Cancer (UICC) jointly proposed an international consensus classification for GCT in 1997, which is unique, as for the first time, a serum tumour marker category (S) based on post-orchiectomy AFP, HCG, and LDH levels was used to supplement the prognostic stages as defined by the anatomic extent of disease [5].

A good PDP is not just the responsibility of a human resource department but should be in the DNA of the whole organization. Professional development should be an intrinsic part of standard operating procedures. Part of the issues with social media usage in this organization is the lack of professional development in this area. Leadership teams that support professional development of personnel can ensure triumphant long-term service for the agency. A PDP should not be a once a year appraisal. A PDP can help to establish training and developmental needs. PDPs should focus on the following:

- Informal and formal assessments
- Continual education programs (internal and external)
- Understanding professional and ethical guidelines

Von hippel-lindau disease, vhl gene, and genetics of clear cell RCC

Since New Horizons has no formal professional development module for employees, it is difficult to evaluate how employees are progressing toward specific goals, such as proper usage of social media as a communication tool for reaching clients concerning the education and treatment of autistic children.

address clinical problems and increase employee retention. The purpose program was to have active staff nurses establish, direct, and reflect on for developing leadership, increasing knowledge, facilitate learning to help new nurses and to reflect on their practice. Seguin implied that the professional development plan helped their organization reduce time to obtain electrocardiograms for patients, decrease the likelihood of triage bottlenecks, which delay critical treatments, increased nursing staff empowerment, and retention. A well-organized professional development plan can serve New Horizons in the same capacity for management, education, administration, communication, and agency guidelines [1].

Levering suggested social media could be a powerful tool for business. However, establishing a professional plan for employees is necessary to avoid the negative effects of social media. Levering implied that two of the most considerable problems with improper uses of social media are tracking negative or misleading statements and accidental dispensation of confidential information. Tracking negative or misleading statements can be an enormous problem for companies, with social media it can be an added burden. However, training employees on policies and procedures associated with social media can help to prevent this problem. Using a professional development plan and assessments can help to reinforce the guidelines and allow for the employee to reflect on how well they understand and utilize best practice in using social media [2].
Yigit and Bagocei evaluated the contributions of action research to teachers' professional development. The professional development was essential for organizational goals and policies. The study consisted of six educators that appraised the usage of action research in professional development. Establishing an effective PDP is a significant factor to ensure the efficiency of improvements at any level. Yigit and Bagocei suggested that a development plan can help professionals assist clients to improve their skills, realize their potential, and acquire knowledge. It is essential that employees have the confidence, skills, and awareness to reach professional goals. A productive PDP can help to affirm this process at New Horizons. The researchers suggested that the teachers in their study conveyed that action research study be utilized to collect data on how a PDP and organizational development. Establishing an effective PDP is a significant factor to ensure employees have the confidence, skills, and awareness to reach professional development. Improving professional development can help to affirm this process at New Horizons. The action research approach is a cyclical process to ensure an ongoing evaluation mechanism to engage problems and information to enact change. Using an action research design for collecting data is an appropriate methodology process to pilot this study because it will allow the staff at New Horizons to be co-researchers and focus on realizing practical solutions to developmental and communication issues within the agency. Green and Huntington used an action research approach to collect data in the public healthcare environment to determine a best practice approach in providing safe and effective interventions for clients. The participants in the action research model worked in small professional development communities to classify potential professional development subject matter (social media) and the development of an online learning lesson program for employees. After the staff had taken the online learning activities, the activity would be evaluated to identify areas of learning needs. The key feature of this cyclical process is that information that is obtained from the online assessments could be used to create other learning activities. The feedback that is communicated to the staff will allow them to reflect on their knowledge and opportunities for improvement [5].

### Solution-based on data collection

The proposal to use an effective action research learning process can be very valuable to New Horizons. Huh, Lee suggested that action learning distinguishes itself from other learning methods in that necessitate learners to take actions centered on project outcomes. During implementing a solution based on data collection, and reflecting on the ramifications of their actions, the learners are given more opportunities for improvement through learning activities. This solution-based approach has many benefits it encompasses a multifaceted process and a higher level of participation from staff members [6].

The goal in the solution process is to enable staff to be able to collaborate with researchers, establish agendas, build solutions to opportunities for improvements they have identified, and improve their professional progression in an ethical method. The Glossary of Education Reform suggested evaluating our solution based on data collection [6].

We will guide the process by these five learning-centered questions:

- What do employees need to know?
- How will we know that they have obtained it?
- How will they acquire the learning?
- What is the next step if they didn’t learn it?
- How will we enrich the learning if they already know it?

(These questions will be the focus during all phases of the online learning activities).

### Evaluating the solution

Elwyn and Hocking suggested that a professional development plan (PDP) will only increase when a support system is established for general purposes to establish best practices. However, PDPs are only the beginning of the process. Practitioners should conceptually the uses of this approach as their chance to learn how to learn, to adopt the organizational guidelines, and develop an approach that can be reproduced for future challenges. PDPs will work best where there is effective leadership within an organization. The leadership team should be able to communicate the importance and relevance of the program [7-9].
Conclusion

Current scientific knowledge is based largely on studies of genome-wide sequencing data from tissue samples obtained via surgery or biopsies. The genomic features of primary tumour tissues have been largely detailed and the next step is to track the natural genomic evolution of RCC throughout the course of the disease - the TRACERx Renal study has provided compelling details of these changes over time. Sylhet city is one of the divisional headquarter and City Corporation along with an increasing proportion of population and unplanned rapid urbanization threatened by various social, cultural and environmental challenges belonging with poor management, inefficiency and lack of coordination among implementing agencies combined with insufficient financial resources which are aggravating the situation gradually.

References


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