

renal simple cyst and solid mass became possible which eliminated the need for biopsy. Guided investigations for hydronephrosis and abscesses are available in hospitals all around the world nowadays (5).

Technique for kidney biopsy

In the first stage, obtaining an informed consent from patient is essential. Taking a careful history of previous hemorrhagic disorders is necessary. Radiographies should be reviewed closely. Patients' medications should be considered before procedure. CBC and coagulation status should be evaluated before biopsy as well. After renal parenchymal biopsy, patients should be admitted at least one night. Reviewing past radiographs could provide a better concept to choose the appropriate biopsy approach for each patient. Determining the exact location of target organ is crucial to select the proper patient's position and needle direction. It is also a time-saving method, which plays an important role in reduction of complication rate. The best radiologic modalities in obtaining a good view for guided biopsy are CT scan, MRI and US (1). Check of vital signs and pulse oximetry should be performed during biopsy procedure. Sedative drugs and analgesics are administered as required (1,5).

Biopsy adequacy

Various studies proposed that renal biopsy is the gold standard in kidney diseases, but it has its disadvantages such as complications and inadequate sample. Incidence of complications varies from 2 to 20% in different reports (7,12).

Antonopoulos showed that in transplanted kidney, US-guided biopsy and blind biopsy methods did not differ in regard to providing adequate sample (3).

Gallego revealed that renal biopsies were the most reliable diagnostic method

in kidney parenchymal disorders (8). Nass confirmed that bedside biopsy could be performed adequately and safely in all patients with normal coagulation tests and platelet number (9). Farrell resulted that US-guided biopsy with an automated needle was safer and more satisfying for both patients and operators. Skilled operators could provide adequate sample from kidney tissue in most of the cases (10).

Horvatić showed that ultrasound is a reliable method in localizing target organ (kidney) for percutaneous procedures in addition to providing a cost benefit approach to assess biopsy complications such as perirenal hematoma (11).

Maya concluded that US-guided renal biopsy was safer and more effective compared to blind biopsy and could decrease the number of patients who needed hospitalization after procedure (6). Sinha confirmed that real-time ultrasound-guided renal biopsy was safe and accurate in children who needed post-biopsy close observation between 6 and 24 hours (12).

Conclusion

Percutaneous renal biopsy is a routine diagnostic procedure in nephrology patients, and it should be individualized for each patient, depending on their age, body mass index (BMI), coagulation status and availability of skilled radiologist.

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Conflict of Interest

The authors declare no conflict of interest.