Introduction
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Hypertension is amongst the most common imported health problem throughout the world. It is a major cause of mortality and morbidity in society, but its exact prevalence is not known because of the large number of representing submerged portion of iceberg.

Hypertension is one such disease which is slow, secret, and silent threat to people, thoughout the world with the potential to cause serious and organ damage. Hypertension affect heart, kidney, eyes, brain and almost all organ of the body.

Hypertension is the disease that is usually diagnosed when it has already cause major damage to the body system or persist as acute complication which may lead to death.

Hypertension is readily detectable, easily treatable and leads to lethal complications if left untreated.

In the VIIth of the Joint National committee on Prevention, detection, evaluation and treatment of high Blood Pressure (JNC VII) hypertension is classified as
<table>
<thead>
<tr>
<th>BP Classification</th>
<th>Systolic BP, mmHg</th>
<th>Diastolic BP, mmHg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>&lt; 120 and</td>
<td>&lt; 80</td>
</tr>
<tr>
<td>Prehypertension</td>
<td>120 - 139 or</td>
<td>80 - 89</td>
</tr>
<tr>
<td>Stage 1 Hypertension</td>
<td>140 - 159 or</td>
<td>90 - 99</td>
</tr>
<tr>
<td>Stage 2 Hypertension</td>
<td>≥ 160 or</td>
<td>≥ 100</td>
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</tbody>
</table>

Although many condition and disorder are known now that causes increased blood pressure, the cause remain unknown in over 90% of cases. So these patients with no definite cause are said to have primary, idiopathic or essential hypertension. Several mechanism have been described in patients with essential hypertension, like dysfunction of sympathetic nervous system, renin-angiotensin system defect, increase salt sensitivity, sodium transport defect and certain risk factor like obesity, smoking, alcoholism and dyslipidemia.

Other than this major group of patients these are patient in whom there is an obvious cause leading to hypertension. These are cases of secondary hypertension cause of which are -

1 Renal

- Acute / chronic glomerulonephritis
- Pyelonephritis
- Renal artery stenosis
- Renal tumour and cysts

2 Endocrine
- Cushing’s syndrome
- Primary aldosteronism
- Pheochromocytoma
- Oral contraceptive

3 Others
- Coarctation of aorta
- Toxaemia of pregnancy

Untreated hypertension increases the risk of vascular damage involving both small (resistance) arteries and arterioles and large (canduit) arteries. These lesions lead to cardiac, renal and cerebrovascular morbidity and mortality. The incidence of these different lesions is also dependent upon the level of other risk factors such as plasma cholesterol, diabetes, alcoholism, smoking and obesity.

Kidneys are important target of hypertension induced organ damage. Urine analysis, creatinine clearance, ultrasonic kidney size,
pyelogram and angiogram are relatively normal in patients with essential hypertension.

Abnormalities of standard kidney function tests in patients with long-standing, poorly controlled hypertension in the absence of intercurrent primary diseases of the kidney are attributable to benign nephrosclerosis. The development of renal damage in hypertension is commonly heared by proteinuria. Under these circumstances low grade proteinuria (<1 gm/day) and creatinine clearance may fall and kidney may shrink. Advance nephrosclerosis is characterized by symmetric reduction in kidney size and increase echogenecity on renal ultrasonography.

Malignant hypertension of lead to renal insufficiency within a few years. Mostly as a consequence of fibrinoid necrosis of small renal arteries.

Ultrasonography is an accurate method of estimating kidney size.

To assess abnormalities in renal size, maximum bipolar length measurement is most practical and recommended method.

* Normal adult kidney size is 9-12 cm in length.

* Healthy men have larger kidney than healthy women.
* In healthy adult right kidney is slightly smaller than left

* Kidney length diminished by approximately 0.5 cm per decade

* Renal length correlates best with body height