(Table 1): Age and gender distribution of studied population

|  |  |
| --- | --- |
| Variable | Summary statistics |
| Age/year Mean ± SD Median (range) | 53.24±7.7651 (38-72) |
| Gender Females Males  | 43 (47.25%)48 (52.75%) |

**(Table 2):.**Medical history of studied population

|  |  |
| --- | --- |
| Variable | Summary statistics |
| Smoking Never  Past  Current  | 45 (49.45%)19 (20.88%)27 (29.67%) |
| Hypertension No Yes  | 47 (51.65%)44 (48.35%) |
| Duration of diabetes  Mean ± SD Median (range) | 9.87±6.359 (1-31) |
| Type of diabetic treatment Oral  Insulin  | 47 (51.65%)44 (48.35%) |

(**Table 3)** Stage of diabetic nephropathy of studied population

|  |  |
| --- | --- |
| Kidney disease stage | Summary statistics |
| Stage 1 & 2Stage 3Stage 4 | 35 (38.46%)36 (39.56%)20 (21.98%) |

 **(Table 4)** Lab investigations of studied population

|  |  |
| --- | --- |
| Variable | Summary statistics |
| Total bilirubinMean ± SDMedian (range) | 0.76±0.270.8 (0.2-1.2) |
| Serum creatinineMean ± SDMedian (range) | 1.03±0.341 (0.3-2.1) |
| Albumin creatinine ratioMean ± SDMedian (range) | 283.21±460.6952 (1-2102) |

 (**Table5)** Relationship of total bilirubin and different variables

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Number | Mean ± SD, median (range) | P value |
| GenderFemalesMales | 4348 | 0.72±0.23, 0.7 (0.3-1.2)0.79±3.1, 0.85 (0.2-1.2) | 0.30 |
| SmokingNeverPastCurrent | 451927 | 0.73±0.24, 0.8 (0.2-1.2)0.77±0.34, 0.8 (0.3-1.2)0.8±0.26, (0.8-0.2) | 0.31 |
| HypertensionNoYes | 4744 | 0.79±0.25, 0.8 (0.3-1.2)0.72±0.29, 0.8 (0.2-1.2) | 0.21 |
| Type of diabetic treatmentOralInsulin | 4744 | 0.77±0.25, 0.8(0.2-1.2)0.74±0.29, 0.8(0.2-1.2) | 0.53 |
| Kidney disease stagesStage 1 & 2Stage 3Stage 4 | 353620 | 0.96±0.20, 1 (0.3-1.2)0.73±0.17, 0.7 (0.4-1.1)0.45±0.19, 0.4 (0.2-1.0) | <0.0001 |

 **(Table6)** Relationship of serum creatinine and different variables

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Number | Mean ± SD, median (range) | P value |
| GenderFemalesMales | 4348 | 0.98±0.31, 1.0 (0.4-1.9)1.08±0.37, 1.0 (0.3-2.1) | 0.18 |
| SmokingNeverPastCurrent | 451927 | 0.98±0.32, 0.9 (0.4-1.9)1.08±0.29, 1.0 (0.7-1.9)1.07±0.42, 1.0 (0.3-2.1) | 0.56 |
| HypertensionNoYes | 4744 | 0.96±0.30, 0.9 (0.4-1.9)1.1±0.37, 1.0 (0.3-2.1) | 0.06 |
| Type of diabetic treatmentOralInsulin | 4744 | 0.99±0.31, 1.0 (0.3-1.9)1.06±0.38, 1.0 (0.4-2.1) | 0.38 |
| Kidney disease stageStage 1 & 2Stage 3Stage 4 | 353620 | 0.84±0.28, 0.8 (0.3-1.8)1.03±0.26, 1.0 (0.4-1.9)1.36±0.35, 1.3 (0.8-2.1) | <0.0001 |

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 **(Table7**) Relationship of albumin creatinine ratio and different variables

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Number | Mean ± SD, median (range) | P value |
| GenderFemalesMales | 4348 | 230.51±301.22, 111 (2-1302)330.42±566.15, 42(1-2102) | 0.38 |
| SmokingNeverPastCurrent | 451927 | 267.31±407.70, 111 (2-2102)294.89±442.53, 92 (3-1313)301.48±562.97, 40 (1-2100) | 0.37 |
| HypertensionNoYes | 4744 | 180.21±279.47, 49 (1-1302)393.23±580.25, 94.5 (2-2102) | 0.22 |
| Type of diabetic treatmentOralInsulin | 4744 | 235.47±406.29, 50 (2-2102)334.20±512.34, 66.5 (1-2100) | 0.66 |
| Diabetic nephropathy stageStage 1 & 2Stage 3Stage 4 | 353620 | 18.37±10.14, 23 (1-30)144.22±95.74, 125.5 (31-321)966.85±535.16, 856 (361-2102) | <0.0001 |

**(Table 8)** Correlation between total bilirubin and different quantities variable

|  |  |  |
| --- | --- | --- |
| Variable | Correlation co-efficient | P value |
| Age/year | -0.21 | 0.04 |
| Duration of diabetes | -0.26 | 0.01 |
| Serum creatinine | -0.35 | 0.001 |
| Albumin creatinine ratio | -0.72 | <0.0001 |

**(Table 9)** Correlation between serum creatinine and different quantities variable

|  |  |  |
| --- | --- | --- |
| Variable | Correlation co-efficient | P value |
| Age/year | 0.27 | 0.01 |
| Duration of diabetes | 0.29 | 0.01 |
| Total bilirubin | -0.36 | 0.001 |
| Albumin creatinine ratio | 0.54 | <0.0001 |

 (**Table 10)** Correlation between Albumin creatinine ratio and different quantities variable

|  |  |  |
| --- | --- | --- |
| Variable | Correlation co-efficient | P value |
| Age/year | 0.21 | 0.04 |
| Duration of diabetes | 0.34 | 0.001 |
| Total bilirubin | -0.72 | <0.0001 |
| Serum creatinine | 0.54 | <0.0001 |

 (**Table 11)** Univariate regression analysis of factors affecting albumin creatinine ratio

|  |  |  |
| --- | --- | --- |
| Variable | Regression coefficient (95% CI) | P value |
| Age/years | 12.44 (0.22-24.67) | 0.046 |
| Male gender | 99.91 (-92.23:292.04) | 0.30 |
| Past smoker vs. pastPast smoker vs. current | 27.58 (-225.58:280.75)34.17 (-191.08:259.43) | 0.830.76 |
| Hypertension | 213.01 (25.20-400.83) | 0.03 |
| Duration of diabetes | 25.20 (10.88-39.53) | 0.001 |
| Insulin Vs. oral | 98.74 (-93.24:290.71) | 0.31 |
| Total bilirubin | -1220.32 (-1469.86:-970.77) | <0.0001 |

**(Table 12**) Multivariate regression analysis of factors affecting albumin creatinine ratio

|  |  |  |
| --- | --- | --- |
| Variable | Regression coefficient (95% CI) | P value |
| Age/years | -2.57 (-13.02:7.89) | 0.63 |
| Male gender | 229.72 (-88.33:467.76) | 0.36 |
| Past smoker vs. pastPast smoker vs. current | -142.49 (-406.64:121.66)-70.97 (-315.15:173.21) | 0.290.57 |
| Hypertension | 63.94 (-75.40:203.28) | 0.36 |
| Duration of diabetes | 13.21 (0.15:26.29) | 0.048 |
| Insulin Vs. oral | 21.48 (-112.84:155.79) | 0.75 |
| Total bilirubin | -1166.80 (-1420:-912.88) | <0.0001 |

**(Table 13**) Final factors affecting albumin creatinine ratio

|  |  |  |
| --- | --- | --- |
| Variable | Regression coefficient (95% CI)  | P value  |
| Duration of diabetes  | 11.49 (1.01:21.96) | 0.03 |
| Total bilirubin  | -1183.75 (-1430.82:-936.68) | <0.0001 |