Delirium in Hospitalised Patients A Study Of Clinical and Psychosocial Profiles

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Abstract:
Background: Very few studies from India studied clinical & psychosocial factors affecting delirium and its symptomatology using DRSR98, associated etiologies, clinical outcomes.
Method: 50 consecutive referrals of delirium were studied.
Results: Mean age of sample was 45.38 years. 68% referrals from medical and allied branches with multifactorial etiology, 78% (39) hyperactive type and 32% (16) had past history of delirium. 74% had visual hallucinations, 46% illusions, and 64% delusions. On MMSE, 66% had significant cognitive impairment, screened positive on CAM. On DRSR98, 62% showed severity in the range of 24 to 31.
Keywords: CAM, Delirium, DRSR98, MMSE.

I.   Introduction
Delirium … a cognitive superbug in health care

Delirium, as a concept, dates back to Hippocrates but as a 'word' it entered the medical literature only during the first century.The word delirium has its etymological root in Latin, -de- liro, meaning 'to be crazy' and de- lira , meaning 'out of the furrow'.From the beginning, people could recognize delirium as an affliction of cognition, consciousness and conation, but the kaleidoscopic symptomatology, multifactorial etiology and unclear pathophysiology baffled them all along. Confusion is one concept that appeared in early 19th century and survived in French psychiatry playing a role similar as delirium in British psychiatry.Broadly speaking confusion refers to ideational incoherence and delirium to perceptual and motor disorders.Currently delirium is considered to be a complex neuropsychiatric syndrome, prevalent in hospital settings, often undetected and undertreated. Prolonged hospitalization, with high rates of morbidity and mortality causing increased stress in patients and caregivers, negatively impacts health care scenario.

II.   Methods
Design and setting:

Aim is to study the clinical and psychosocial profiles of delirium and their relation patterns in adult inpatients among the consecutive referrals from other departments. To study the rate of concordance in diagnosis between clinically suspected and instrumentally confirmed cases of delirium. This study is a case series, cross-sectional study of 50 adult hospitalized patients of suspected delirium referred to the Department of Psychiatry,Kamineni academy of medical sciences and research centre .

Delirium cases fulfilling the diagnostic criteria of International Classification of Diseases-10 (ICD10) are included and Critically ill patients, intubated or on ventilator are excluded. Intake proforma to collect information, psychosocial history and objective data.

Study tools are Socio Economic scale **[SES]**O.P.Aggarwal[1] ,International Classification of Diseases-10 Classification of Mental and Behavioral Disorders **[ICD-10]** [2], ,Mini Mental Status Examination **[MMSE]** Folstein, M.F (1975)[4] ,Confusion Assessment Method **[CAM]** Inouye, S.K(1990)[3] ,Delirium Rating Scale Revised 98 **[DRS R 98]** Trzepacz ,P.T (1988)[5] .

Consecutive referrals with a label of suspected delirium from other wards of the hospital were examined by a qualified psychiatrist to confirm the diagnosis of delirium, applying ICD-10 criteria. The first 50 cases of delirium from among consecutive referrals were included in the study, after taking informed consent. A self - structured proforma was used to record demographic details [1], objective data and neuropsychiatric history. Patients were further screened on CAM[3],and MMSE[4] for cognitive functions. Severity of delirium was assessed by DRS R 98[5] .

Observations and results were tabulated, statistically analysed and discussed in light of available literature.In the present study, first 50 cases of delirium could be collected from 55 consecutive referrals of suspected delirium . (N=50).

III. Results

- In the sample 50% (25) of the subjects were in 20-40 yrs age group
- Male predominance with88%(44)
- Most of the sample 44 %(22) of the subjects were illiterates and 42% of the subjects were occupied in agriculture.
- 86% (43) were married.
- 82%(41) were from rural area.
- 88%(44) belonged to nuclear families.
- 80%(40) belonged to very poor socioeconomic status.
- Rate of concordance in diagnosis between suspected referrals and confirmed cases was 90.9% with 68%(34) of the referrals came from medical and allied branches,
- 48%(24) of the subjects had >48hrs duration of delirium symptoms.
- 32%(16) of the subjects had past history of delirium.
- 80% (40) of subjects had history of alcohol for>5 years.
- In 54% (27) of the subjects cause of delirium was multifactorial.
- 78%(39) of the delirium was hyperactive type.
- 54%(27) of the subjects had prevalent delirium as against 46%(23) of incident delirium.
- 74%(37) of the subjects had hallucinations mostly visual.
- Illusions were present in 46%(23) of the subjects.
- 64% (32) had delusions.
- On Mini Mental Status Examination [4], 66 %(33) of the subjects had severe cognitive impairment.
- All subjects screened positive on Confusion Assessment Method [3] criteria.
- Delirium Rating Scale Revised 98[5] 62%(31) of the subjects showed severity in the range of 24 to 31.

IV. Discussion

AGE:

In the present study , the mean age is 45.38 years and is comparable to other studies. Grover et al[6] (2014) mean age as 48.06 yrs, Sharma et al[7] (2010) mean age 44.04yrs andMattoo et al[8](2012) mean age 44.4yrs.

SEX

In the present study out of 50 subjects,88%(44) were males and 12%(06) were females comparable with Grover et al[6] (2014) , Out of 461 subjects, 69.6% were males and 30.4% were females and Mattoo et al[8] (2012), Out of 100 subjects, 78% were males and 22% were females and Grover et al[6] (2009), Out of 1050 subjects,69.9% were males and 30.1% were females

MARITAL STATUS

In the present study, 86%(43)were married,8% unmarried,6% others(widow/er) which is comparable to Sharma et al[7](2010), in which 83%(29) were married, 5.5% were unmarried.

DOMICILE

In the present study, subjects were more from rural area than urban area similar to Sharma et al[7] (2010).In the present study,12%unemployed hence not comparable to Sharma et al[7] (2010) in distribution of subjects according to occupational status.

SOURCE OF REFAERRAL

In the present study, 68% (34) subjects were referred from medical and allied branches comparable to Mattoo et al[8], 51%(51)referred from medical specialities,In Sharma et al[7] , 63.7%(22) and In Grover et al[9], 49.5% (520)

In the present study, 32%(16) referred from surgical branches similar to In Mattoo et al[8](2012), 49%(49),In Sharma et al[7] (2010), 36%(13) ,In Grover et al[9](2009), 32.6%(343).

ONSET OF DELIRIUM

In the present study, subjects with delirium before admission were more than that of after admission which is similar and comparable to Grover et al[6] (2014).

DURATION OF DELIRUM

Present study mean duration of delirium was 4.3days comparable to 4.02 days in Grover et al[6] (2014)where as less i.e 2.9days in Mattoo et al[8] (2012).

Delirium onset N=50

Delirium onset	Present study N=50	Grover et al[6] N=461
Before admission(Prevalent)	54%	69.8%
After admission (Incident)	46%	30.2%

Duration of Delirium N=50

Duration of Delirium	Present study N=50	Grover et al[6] N=461	Mattoo et al[8] N=100
Mean duration	4.3days	4.02days	2.9days

Duration of delirium can be compared to grover et al

Type of delirium

Compared to other studies hypoactive delirium cases reported more

Type of delirium	Present study N=50 (%)	Grover et al[6] N=461 (%)	Mattoo et al[8] N=100 (%)
Hyperactive	39 (78)	419 (90.9)	94 (94)
Hypoactive	11 (22)	137 (29.7)	9 (9)

Observations on other tools N=50

S.No	Tools	Present study N=50	Paramjeet et al[10] N=27
1.	MMSE[3]	All scored less than 24	All scored less than 24
2.	CAM[5]	All are CAM positive	All are CAM positive

Delirium Rating Scale Revised 98 Scores N=50

Mean DRS R 98 scores	Present study N=50 m(SD)	Grover et al[6] N=461 m(SD)	Mattoo et al[8] N=100 m(SD)
Severity score	28.08 (12.543)	17.87 (4.93)	21.0 (3.4)
Total score	33.1 (10.164)	23.76 (5.26)	25.6 (3.6)

Frequencies of DRS R 98 Items N=50

DRS R 98 Items	Present study N=50(%)	Grover et al[6] N=461(%)	Mattoo et al[8] N=100(%)
Sleep wake cycle disturbances	50 (100)	440 (95.4)	99
Perceptual disturbances	38 (76)	330 (71.6)	35
Delusions	32 (64)	152 (33)	14
Lability of affect	41 (82)	284 (61.6)	94
Language	35 (70)	345 (74.8)	90
Thought process abnormalities	46 (92)	341 (74)	92
Motor agitation	39 (78)	419 (90.9)	94
Motor retardation	11 (22)	137 (29.7)	09
Orientation	50 (100)	443 (96.1)	100
Attention	50 (100)	437 (94.8)	100
Short term memory	48 (96)	383 (83.1)	91
Long term memory	49 (98)	242 (52.5)	97
Visuospatial ability	47 (94)	261 (56.6)	93
Temporal onset of symptoms	50 (100)	459 (99.6)	-
Fluctuation	50 (100)	413 (89.6)	-
Physical disorder	45 (90)	461 (100)	-

		Age	Sex	Marital status	Education	Occu	Type of family	SE status	Source of referral	DRS R 98
DRS R 98	Correlation Coefficient	-.103	-.090	.229	.114	.117	-.035	-.046	.293*	1.000
	Sig. (2-tailed)	.477	.535	.110	.429	.418	.810	.750	.039	
	N	50	50	50	50	50	50	50	50	50
DRS R 98	Correlation Coefficient	-.103	-.090	.229	.114	.117	-.035	-.046	.293*	1.000

*. Correlation is significant at the 0.05 level (2-tailed).

Selected sample of the present study

Case material	No of subjects
Consecutive referrals of suspected delirium	55
Confirmed cases of delirium	50
Excluded cases	05

Alcohol abuse in relation to source of referral

	Source of referral		Total
Alcohol abuse	**Medical**	**Surgical**	**N=50 (%)**
Present	26	14	40 (80)
Absent	08	02	10 (20)
Total			50 (100)

DRS R 98

DRS R 98 showed significant values in source of referral and onset of delirium

DRS R 98   vis-a-vis   Source of referral

Source of referral	**DRS R 98** (Mean(SD))
Medical	27.21 (3.991)**
Surgical	29.94 (4.139)

**Significant at 5% level (P=0.030), Student T test t value= -2.230

DRS R 98   vis-a-vis   Delirium onset

Delirium onset	**DRS R 98** (Mean(SD))
Before admission(Prevalent)	26.73 (3.966)**
Hospital emergent (Incident)	29.14 (4.134)

** Significant at 5% level (P=0.042), Student T test t value = -2.088

V. Conclusion

Spare the limitation of small sample size, the strength of the present study lies in its focus on the different aspects of delirium and their interrelationship.

In the present study, source of referral, duration, type and probable causes of delirium were comparable to the profiles of other studies.

Delirium was seen more in younger age group than in the elderly and most of the subjects reported history of ethanol abuse for more than 5 years. Also there was a past history of delirium in one third of the cases. Perhaps alcohol could have been a contributing risk factor in precipitating delirium in majority of the cases either alone or in association with other causes.

Tools like MMSE[61] and CAM[62] proved to be very handy and useful in the bedside screening of delirium living up to their established reputation.

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