SQLプロシジャの利用

ー安全性の集計を題材にー

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発現症状	重症度		
	軽度	中等度	重度
心臓障害	12(8.9)	5(3.7)	2(1.5)
完全房室ブロック	1(0.7)		
徐脈ＮＯＳ	1(0.7)		
心不全増悪	1(0.7)		
うっ血性心不全	1(0.7)		
心不全ＮＯＳ	1(0.7)		
低心拍出量症候群	1(0.7)		
心筋梗塞		1(0.7)	
動悸	2(1.5)		
洞停止	1(0.7)		
洞性徐脈			2(1.5)
心室細動	1(0.7)		
心室性頻脈	1(0.7)	4(3.0)	
胃腸障害		1(0.7)	
吐血		1(0.7)	

```
proc sql ;
create table ae1 as
  select aesoc,aesev,count(*) as c
  from sugi.ae
  group by aesoc,aesev ;
  quit ;
```

```
proc sql ;
create table ae2 as
  select aesoc,aesev,count(*) as c
  from
    (select aesoc,subjid,max(aesev) as aesev
     from sugi.ae group by aesoc,subjid) as ae1
  group by aesoc,aesev ;
  quit ;
```

	SOC	aesev	c
1	心臓障害	1	10
2	心臓障害	2	6
3	心臓障害	3	3
4	胃腸障害	2	1
5	全身障害および投与局所様態	1	1
6	全身障害および投与局所様態	2	3
7	臨床検査	1	3
8	臨床検査	2	2
9	臨床検査	3	1
10	代謝および栄養障害	2	1
11	神経系障害	1	1
12	神経系障害	2	1
13	神経系障害	3	1
14	腎および尿路障害	1	1
15	呼吸器、胸郭および縦隔障害	1	3
16	外科および内科処置	3	1
17	血管障害	1	1
18	血管障害	2	1

```
data _null_ ;
  set sugi.demo ;
  call symput ('all',left(_n_)) ;
  run ;

proc sql ;
  select count(*) as all
  from sugi.demo ;
```

	all
1	135

```
proc sql ;
create table ae2 as
  select aesoc,aesev,count(*) as c,all
  from
    (select aesoc,subjid,max(aesev) as aesev
     from sugi.ae group by aesoc,subjid) as d1,
    (select count(*) as all  from sugi.demo) as d2
  group by aesoc,aesev ;
  quit ;
```

```
proc sql ;
create table ae1 as
  select aesoc,aesev,
    compress(put(count(*),8.))||'('||
    compress(put(count(*)/all*100,8.1))||') ' as c
  from
    (select aesoc,subjid,max(aesev) as aesev
     from sugi.ae group by aesoc,subjid) as d1,
    (select count(*) as all from sugi.demo) as d2
  group by aesoc,aesev ;
  quit ;
```

```
proc sql ;
create table ae1 as
  select aesoc,aesev,count/all as r,
    compress(put(count(*),8.))||'('||
    compress(put(r*100,8.1))||') ' as c
  from
    (select aesoc,subjid,max(aesev) as aesev
     from sugi.ae group by aesoc,subjid) as d1,
    (select count(*) as all from sugi.demo) as d2
  group by aesoc,aesev ;
  quit ;
```

	SOC	aesev	c
1	心臓障害	1	10(7.4)
2	心臓障害	2	6(4.4)
3	心臓障害	3	3(2.2)
4	胃腸障害	2	1(0.7)
5	全身障害および投与局所様態	1	1(0.7)
6	全身障害および投与局所様態	2	3(2.2)
7	臨床検査	1	3(2.2)
8	臨床検査	2	2(1.5)
9	臨床検査	3	1(0.7)
10	代謝および栄養障害	2	1(0.7)
11	神経系障害	1	1(0.7)
12	神経系障害	2	1(0.7)
13	神経系障害	3	1(0.7)
14	腎および尿路障害	1	1(0.7)
15	呼吸器、胸郭および縦隔障害	1	3(2.2)
16	外科および内科処置	3	1(0.7)
17	血管障害	1	1(0.7)
18	血管障害	2	1(0.7)

```
proc sql ;
create table ae1 as
 select aesoc,aesev,
  compress(put(count(*),8.))||'('||
  compress(put(count(*)/all*100,8.1))||') ' as c
 from
  (select aesoc,subjid,max(aesev) as aesev
   from sugi.ae group by aesoc,subjid) as d1,
  (select count(*) as all from sugi.demo) as d2
 group by aesoc,aesev
outer union corresponding

select aesoc,aept,aesev,
       compress(put(count(*),8.))||'('||
       compress(put(count(*)/all*100,8.1))||')' as c
   from (select aesoc,aept,subjid,max(aesev) as aesev
        from sugi.ae group by aesoc,aept,subjid) as d1,
       (select count(*) as all from sugi.demo) as d2
   group by aesoc,aept,aesev
order by aesoc,aept,aesev ;
```

```
proc transpose data=ae1 out=ae2 ;
  by aesoc aept ;
  id aesev ;
  var c ;
  run ;
```

	SOC	PT	前の変	_1	_2	_3
1	心臓障害		c	10(7.4)	6(4.4)	3(2.2)
2	心臓障害	完全房室ブロック	c	1(0.7)		
3	心臓障害	徐脈NOS	c	1(0.7)		
4	心臓障害	心不全増悪	c	1(0.7)		1(0.7)
5	心臓障害	うっ血性心不全	c	1(0.7)		
6	心臓障害	心不全NOS	c	1(0.7)		
7	心臓障害	低心拍出量症候群	c	1(0.7)		
8	心臓障害	心筋梗塞	c		1(0.7)	
9	心臓障害	動悸	c	2(1.5)		
10	心臓障害	洞停止	c	1(0.7)		
11	心臓障害	洞性徐脈	c			2(1.5)
12	心臓障害	心室細動	c	1(0.7)		
13	心臓障害	心室性頻脈	c		5(3.7)	
14	胃腸障害		c		1(0.7)	
15	胃腸障害	吐血	c		1(0.7)	
16	全身障害および投与局所様態		c	1(0.7)	3(2.2)	
17	全身障害および投与局所様態	死亡NOS	c	1(0.7)	1(0.7)	
18	全身障害および投与局所様態	発熱	c		1(0.7)	
19	全身障害および投与局所様態	突然死	c		1(0.7)	
20	臨床検査		c	3(2.2)	2(1.5)	1(0.7)
21	臨床検査	血圧上昇	c		1(0.7)	
22	臨床検査	血中トリグリセリド増加	c	1(0.7)	1(0.7)	
23	臨床検査	血中尿素増加	c	2(1.5)		
24	臨床検査	心電図QT延長	c		1(0.7)	

発現症状	重症度		
	軽度	中等度	重度
心臓障害	10(7.4)	6(4.4)	3(2.2)
完全房室ブロック	1(0.7) SUGI0033		
徐脈ＮＯＳ	1(0.7) SUGI0020		
心不全増悪	1(0.7) SUGI0028		1(0.7) SUGI0090
うっ血性心不全	1(0.7) SUGI0161		
心不全ＮＯＳ	1(0.7) SUGI0005		
低心拍出量症候群	1(0.7) SUGI0004		
心筋梗塞		1(0.7) SUGI0132	

```
proc sql ;
create table ae0 as
select aesoc,aept,max(aesev) as aesev,subjid
  from sugi.ae
  group by aesoc,aept,subjid ;
```

	SOC	PT	aesev	被験者ID
1	心臓障害	完全房室ブロック	1	SUGI0033
2	心臓障害	徐脈NOS	1	SUGI0020
3	心臓障害	心不全増悪	1	SUGI0028
4	心臓障害	心不全増悪	3	SUGI0090
5	心臓障害	うっ血性心不全	1	SUGI0161
6	心臓障害	心不全NOS	1	SUGI0005
7	心臓障害	低心拍出量症候群	1	SUGI0004
8	心臓障害	心筋梗塞	2	SUGI0132
9	心臓障害	動悸	1	SUGI0024
10	心臓障害	動悸	1	SUGI0027
11	心臓障害	洞停止	1	SUGI0066

```
proc sort data=ae0 ;
  by aesev aesoc aept ;
  run ;

data ae0 ;
  set ae0 ;
  by aesev aesoc aept ;
  if first.aept then seq=0 ;
  seq+1 ;
  run ;
```

```
proc sql ;
create table ae0 as
select aesoc,aept,max(aesev) as aesev,subjid
  from sugi.ae
  group by aesoc,aept,subjid ;

create table ae1 as
select aesoc,aept,aesev,
       (select count(*) from ae0
        where aesoc=d1.aesoc and aept=d1.aept and
              aesev=d1.aesev and subjid<=d1.subjid) as seq,
       subjid as c
  from ae0 as d1 ;
  quit ;
```

```
proc sql ;
create table ae0 as
select aesoc,aesev,subjid
  from sugi.ae as d1
  where aesev=
    (select max(aesev) from sugi.ae
      where aesoc=d1.aesoc and subjid=d1.subjid
      group by aesoc,subjid)
  ;

create table ae0 as
select d1.aesoc,d1.aesev,d1.subjid
  from sugi.ae as d1,
    (select aesoc,max(aesev) as aesev,subjid
      from sugi.ae group by aesoc,subjid) as d2
  where d1.aesoc=d2.aesoc and d1.aesev=d2.aesev and
          d1.subjid=d2.subjid
```

```
select empnum,empname,empcity
  from sql.employee as e
  where ‘surfboard’ in
    (select prodname from sql.invoice as i
      where i.empnum=e.empnum)
  order by 1
  ;

select e.empnum,e.empname,e.empcity
  from sql.employee as e,
    (select empnum,prodname,count(*)
       from sql.invoice
       group by empnum,prodname) as p
  where e.empnum=p.empnum and p.prodname=‘surfboard’
  order by 1
  ;
```

```
proc sql ;
create table ae0 as
select aesoc,aept,max(aesev) as aesev,subjid
  from sugi.ae
  group by aesoc,aept,subjid ;

create table ae1 as
select aesoc,aept,aesev,
       (select count(*) from ae0
        where aesoc=d1.aesoc and aept=d1.aept and
              aesev=d1.aesev and subjid<=d1.subjid) as seq,
       subjid as c
  from ae0 as d1
outer union corresponding
select aesoc,aesev,
       compress(put(count(subjid),8.))||'('||
       compress(put(count(subjid)/all*100,8.1))||')' as c
  from (select aesoc,subjid,max(aesev) as aesev
        from sugi.ae group by aesoc,subjid) as d1,
       (select count(subjid) as all from sugi.demo) as d2
  group by aesoc,aesev
outer union corresponding
select aesoc,aept,aesev,
       compress(put(count(subjid),8.))||'('||
       compress(put(count(subjid)/all*100,8.1))||')' as c
  from ae0,
       (select count(subjid) as all from sugi.demo) as d2
  group by aesoc,aept,aesev
order by aesoc,aept,seq,aesev ;
quit ;
proc transpose data=ae1 out=ae2 ;
  by aesoc aept seq ;
  id aesev ;
  var c ;
  run ;
```

	SOC	PT	seq	前の	前の変数ラ	_1	_2	_3
16	心臓障害	動悸	.	c	被験者ID	2(1.5)		
17	心臓障害	動悸	1	c	被験者ID	SUGI0024		
18	心臓障害	動悸	2	c	被験者ID	SUGI0027		
19	心臓障害	洞停止	.	c	被験者ID	1(0.7)		
20	心臓障害	洞停止	1	c	被験者ID	SUGI0066		
21	心臓障害	洞性徐脈	.	c	被験者ID			2(1.5)
22	心臓障害	洞性徐脈	1	c	被験者ID			SUGI0039
23	心臓障害	洞性徐脈	2	c	被験者ID			SUGI0048
24	心臓障害	心室細動	.	c	被験者ID	1(0.7)		
25	心臓障害	心室細動	1	c	被験者ID	SUGI0018		
26	心臓障害	心室性頻脈	.	c	被験者ID		5(3.7)	
27	心臓障害	心室性頻脈	1	c	被験者ID		SUGI0022	
28	心臓障害	心室性頻脈	2	c	被験者ID		SUGI0026	
29	心臓障害	心室性頻脈	3	c	被験者ID		SUGI0079	
30	心臓障害	心室性頻脈	4	c	被験者ID		SUGI0085	
31	心臓障害	心室性頻脈	5	c	被験者ID		SUGI0122	
32	胃腸障害		.	c	被験者ID		1(0.7)	
33	胃腸障害	吐血	.	c	被験者ID		1(0.7)	
34	胃腸障害	吐血	1	c	被験者ID		SUGI0032	
35	全身障害および投与局所様態		.	c	被験者ID	1(0.7)	3(2.2)	
36	全身障害および投与局所様態	死亡NOS	.	c	被験者ID	1(0.7)	1(0.7)	
37	全身障害および投与局所様態	死亡NOS	1	c	被験者ID	SUGI0081	SUGI0055	
38	全身障害および投与局所様態	発熱	.	c	被験者ID		1(0.7)	
39	全身障害および投与局所様態	発熱	1	c	被験者ID		SUGI0033	
40	全身障害および投与局所様態	突然死	.	c	被験者ID		1(0.7)	
41	全身障害および投与局所様態	突然死	1	c	被験者ID		SUGI0123	
42	臨床検査		.	c	被験者ID	3(2.2)	2(1.5)	1(0.7)
43	臨床検査	血圧上昇	.	c	被験者ID		1(0.7)	
44	臨床検査	血圧上昇	1	c	被験者ID		SUGI0024	
45	臨床検査	血中トリグリセリド増加	.	c	被験者ID	1(0.7)	1(0.7)	

```
proc sql ;
create table ae0 as
select d3.drg,d3.aesoc,d3.aesev,
     compress(put(count(d3.subjid),8.))||'('||
     compress(put(count(d3.subjid)/all*100,8.1))||')' as c
from
     (select d1.drg,d2.aesoc,d2.subjid,max(d2.aesev) as aesev
     from sugi.demo as d1,sugi.ae as d2
     where d1.subjid=d2.subjid
     group by d1.drg,d2.aesoc,d2.subjid) as d3,
     (select drg,count(subjid) as all from
     sugi.demo group by drg) as d4
where d3.drg=d4.drg
group by d3.drg,d3.aesoc,d3.aesev ;
quit ;
```

ご清聴ありがとうございました